User Guide - English

FUJITSU Software ServerView Suite

ServerView Installation Manager

Edition March 2015

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Certified documentation according to DIN EN ISO 9001:2008

To ensure a consistently high quality standard and user-friendliness, this documentation was created to meet the regulations of a quality management system which complies with the requirements of the standard DIN EN ISO 9001:2008.

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1 Introduction

ServerView Installation Manager (referred to here as Installation Manager for short) comes as part of ServerView Suite. Within the ServerView Suite, Installation Manager is the component for configuring and installing operating systems and other user management and server management software. Installation Manager also enables subsequent adjustments to system settings on systems that have already been installed.

The operating system installation on the target system can be initiated locally using a DVD drive on that system, or remotely with PXE boot using a deployment server.

In preparation for the installation, Installation Manager wizards guide you through a series of configuration menus, where you compile all parameters required for system configuration and for the subsequent automatic operating system installation. You can save these parameters to a configuration file and use them to install additional servers with the same hardware architecture.

This is the ServerView Installation Manager common manual that contains the explanation for a function supported in a specific region and language only.

The installation of Suse Linux and VMware is not supported for Japan.

You will find the latest information on supported server systems and supported operating systems for Japan as part of the restrictions of the ServerView Suite on the Internet.

1.1 Overview of functional scope

- For local operating system installations on the target system: Automatic recognition of the hardware configuration and RAID arrays of your PRIMERGY server.
- Installation support for the following server operating systems: Microsoft Windows Server, Red Hat and SuSE Linux Enterprise versions, VMware ESX, VMware ESXi.

Configuration and installation are largely the same for both VMware ESX/ESXi and the Linux distributions, and so the procedures are described in the same chapter here.

- Creation of configuration files for the automatic installation of several PRIMERGY servers with identical hardware configurations and for use as templates for additional, similar installation processes.
- Installation of drivers, service packs and application software.

The choice of software that you can install is automatically determined by your server's hardware configuration.

- Remote access to configuration files and installation packages that are available on file servers or on DVD drives that are shared on the network.
- PXE-based remote network installation of PRIMERGY servers.
- Multi Deployment Platform: Integrating custom programs or scripts into the Installation Manager platform (MS Windows PE) and launching the package on target systems via PXE boot.
- Using the "Generic PXE Boot" function, you can boot any required boot images on the target system via PXE boot based on the PXE infrastructure of Installation Manager.
- Creating a backup of the Installation Manager repository.
- Restoring the Installation Manager repository using a backup.

1.2 Additional documentation

ServerView Suite booklet

This booklet, which accompanies your PRIMERGY server, provides an overview of the components of the ServerView Suite and contains a quick-start guide to the process of wizard-assisted operating system installation.

Online help

The context-sensitive online help function provides detailed information on all the configuration steps you will complete with the assistance of the various configuration wizards.

1.3 Target groups and objectives of this manual

This manual is aimed at users who have a sound knowledge of hardware and software, as well as system administrators and service professionals. It provides an introduction to the functional scope and operating concept of Installation Manager and describes the various options available when installing operating systems on your PRIMERGY server using Installation Manager.

1.4 Changes to the previous edition

The current edition is valid as of ServerView Installation Manager V11.15.03 and replaces the following online manual:

"*ServerView Installation Manager*", Edition November 2014

ServerView Installation Manager V11.15.03 includes the following update:

In the **Configure Your Unattended Operating System Installation** dialog box, you can select whether PXE will start over IPv4 or IPv6 when PXE boot is executed in "native" UEFI Boot mode from the GUID Partition Table (GPT) partition.

1.5 ServerView Suite link collection

Via the ServerView Suite link collection, Fujitsu Technology Solutions provides you with numerous downloads and further information on the ServerView Suite and PRIMERGY servers.

For ServerView Suite, links are offered on the following topics:

- Forum
- Service Desk
- Manuals
- Product information
- Security information
- Software downloads
- Training

The downloads include the following:

- Current software statuses for the ServerView Suite as well as additional Readme files.
- Information files and update sets for system software components (BIOS, firmware, drivers, ServerView agents and ServerView update agents) for updating the PRIMERGY servers via ServerView Update Manager or for locally updating individual servers via ServerView Update Manager Express.
- The current versions of all documentation on the ServerView Suite.

You can retrieve the downloads free of charge from the Fujitsu Technology Solutions Web server.

For PRIMERGY servers, links are offered on the following topics:

- Service Desk
- Manuals
- Product information
- Spare parts catalogue

Access to the ServerView Suite link collection

You can reach the link collection of the ServerView Suite in various ways:

1. Via ServerView Operations Manager.
   - Select **Help** – **Links** on the start page or on the menu bar.

This opens the start page of the ServerView Suite link collection.

2. Via the start page of the online documentation for the ServerView Suite on the Fujitsu Technology Solutions manual server.

You access the start page of the online documentation via the following link:

http://manuals.ts.fujitsu.com

- In the selection list on the left, select **x86 Servers**.
- On the right, click **PRIMERGY ServerView Links** under **Selected documents**.

This opens the start page of the ServerView Suite link collection.

3. Via the ServerView Suite DVD 2.
   - In the start window of the ServerView Suite DVD 2, select the option **ServerView Software Products**.
   - On the menu bar select **Links**.

This opens the start page of the ServerView Suite link collection.

1.6 Documentation for the ServerView Suite

The documentation can be downloaded free of charge from the Internet. You will find the online documentation at http://manuals.ts.fujitsu.com under the link **x86 Servers**.

For an overview of the documentation to be found under **ServerView Suite** as well as the filing structure, see the ServerView Suite sitemap (**ServerView Suite – Site Overview**).

1.7 Typographic conventions

The following typographic conventions are used:

Convention	Explanation
	Indicates various types of risk, namely health risks, risk of data loss and risk of damage to devices.
	Indicates additional relevant information and tips.
bold	Indicates references to names of interface elements.
`monospace`	Indicates system output and system elements for example, file names and paths.
`monospace semibold`	Indicates statements that are to be entered using the keyboard.
blue continuous text	Indicates a link to a related topic.
pink continuous text	Indicates a link to a location you have already visited.
<abc>	Indicates variables which must be replaced with real values.

Convention	Explanation
[abc]	Indicates options that can be specified (syntax).
[key]	Indicates a key on your keyboard. If you need to enter text in uppercase, the Shift key is specified, for example, [SHIFT] + [A] for A. If you need to press two keys at the same time, this is indicated by a plus sign between the two key symbols.

Screenshots
Some of the screenshots are system-dependent, so some of the details shown may differ from your system. There may also be system-specific differences in menu options and commands.

2 Overview and quick step guides

Installation Manager allows you to install Microsoft Windows Server, Linux Enterprise and VMware ESX/ESXi operating systems, as well as additional software, on PRIMERGY servers.

This chapter provides an overview of the functional scope of Installation Manager and a quick step guide for the following installation variants:

- an initial local Windows installation in *Typical* mode
- a remote installation via deployment server

In this manual, the term "*deployment server*" refers to servers on which a PXE server is installed.

2.1 Installation Manager (overview)

A PRIMERGY server installation using Installation Manager is distinguished by the following characteristics:

- Separation of installation and configuration processes

The installation of an operating system on a PRIMERGY server comprises a configuration phase and an installation phase:

1. In the configuration phase, you configure general system settings for the target system, the RAID system, and hard disks as well as settings for the operating system that is to be installed.

   In **Customized** configuration mode, you can save these settings to a configuration file, which you can then use to install other identical servers.

2. Installation Manager uses a previously created configuration file to configure the server and to install the operating system on the target system automatically in unattended mode.

- Local installation on the target system or remote installation

You have the option of configuring and installing the operating system locally on the target system. To do this, boot the target system from PRIMERGY ServerView Suite DVD 1 and initiate the local installation on the target system. Alternatively, you can configure the installation process under a Windows Server operating system on a deployment server and, from there, start the automatic installation process on the target system via the network (remote installation).

- Configuration in **Typical** or **Customized** mode
  - **Typical** deployment mode provides support in the form of preset values for configuration parameters, and it eliminates operating errors through plausibility checks. In addition, all software components required in order to use ServerView are included in the installation.
  - **Customized** deployment mode enables a configuration of the target system and the operating system you want to install that is tailored to your specific requirements.

In both modes, the Installation Manager wizards guide you through the individual configuration steps.

To install Windows Server Core, you must use **Customized** mode.

2.1.1 Configuration and unattended installation

During the configuration phase, Installation Manager enters all selected parameters in a configuration file (*xml* file), which you can save locally or on an external storage medium after the customized configuration session has ended. You cannot start the operating system installation on the target system until all settings have been configured.

2.1.1.1 Configuring the installation process and/or starting the installation

Installation Manager offers the following options:

- Configure the installation process and install the operating system on the target system immediately afterwards.
- Configure the installation process and - if you use **Customized** configuration mode - save the configuration file for installing the operating system at a later stage.
- Import an existing configuration file, modify it if required, and install the operating system on the target system.

2.1.1.2 Configuration and configuration file

Values must be configured for the following operating parameters using the Installation Manager wizards in preparation for an unattended installation:

- Target system (for remote installations only)
- Operating system to be installed
- Optional: System settings that are relevant for server management (using Server Configuration Manager)
- Hard disks/RAID array configuration
- Disks: Selection, partitioning and formatting

- Configuration data for the operating system
- Applications that you want to be installed together with the operating system. (The applications available for selection depend on the operating system you are installing.)

Based on the selected installation method (local or remote), Installation Manager sets some configuration parameters independently and offers default values for many configuration parameters.

During the system configuration process, the Installation Manager can create a maximum of one RAID array.

2.1.1.3 Unattended installation

As soon as you start the installation process, Installation Manager configures the system hardware and then starts installing the operating system in accordance with the parameters in the configuration file. The entire installation, including any restarts that are required, runs in fully automatic (unattended) mode, which means that you are only required to intervene in the installation process in order to change storage media (operating system, service packs, applications) or in the case of incorrect or incomplete hardware detection. During installation of the operating system, Installation Manager automatically integrates drivers for system components that are not contained in the operating system.

In the case of local installations, you can track the progress of the installation on the target system monitor.

With remote installation, Installation Manager provides information about the installation process using a progress bar, logging information and system messages.

The target system mouse, keyboard and monitor are not required for a remote installation ("headless installation").

2.1.2 Local and remote installation

Installation Manager offers the following alternatives for the installation:

- Local installation on the target system
- PXE-based remote installation

2.1.2.1 Local installation on the target system

For a local installation, boot from ServerView Suite DVD 1 on the target system. Installation Manager then automatically detects the hardware configuration of the target system and, in particular, RAID and hard disk systems, and it adjusts the scope of the configuration dialog box accordingly.

In the case of a local installation, you can choose between **Typical** deployment mode (for an installation based on default values), and **Customized** deployment mode (for an installation based on parameters specifically tailored to meet your requirements).

2.1.2.2 Remote installation

For a PXE-based remote installation of the operating system, install and start Installation Manager as an independent application on a deployment server under a Windows Server operating system. The Central Management Station (CMS) on which ServerView Operations Manager is also installed is ideally suited for use as a deployment server. Installation of the PXE service and of program packages for remote installation is required in this case, as is the availability of a DHCP server in the LAN segment of the deployment server.

If Installation Manager is installed on a deployment server, you can start it remotely by calling it via a browser on your local workstation desktop (Windows or Linux). A remote installation is configured in Customized mode.

The target system must be prepared for the PXE boot. For this purpose, either configure the settings for the Remote Management Controller when defining the target system, or prepare the target system manually (enable the PXE boot in the BIOS and place it in the first position in the boot sequence). Installation Manager then starts a PXE client on the target system that contacts the deployment server for the installation.

2.1.3 Typical or Customized deployment

Installation Manager offers two modes, **Typical** and **Customized**, for deployment, i.e., for the configuration and execution of operating system installations on PRIMERGY servers.

To install Windows Server Core, you must use **Customized** mode.

2.1.3.1 Typical deployment mode

The **Typical** deployment mode is only supported for local installations on the target system. It is the default setting.

In this mode, Installation Manager proposes values for the configuration parameters and eliminates operating errors through plausibility checks. It also automatically installs all software components required to monitor the target system with ServerView Operations Manager.

The **Typical** deployment mode comprises the following steps:

1. Select the operating system you want to install.
2. Configure an unattended operating system installation.
3. Start the installation.

2.1.3.2 Customized deployment mode

In **Customized** deployment mode, you configure the target system hardware on the target system directly or on a deployment server under a Windows Server operating system.

If you execute the configuration on the target system (local installation), Installation Manager automatically detects the hardware configuration of the target system and adjusts the configuration dialog boxes accordingly.

In case of remote installation, you can use the option to explicitly specify the hardware configuration of the target system. Alternatively, you can configure Installation Manager to retrieve target system data either from its own repository or directly from the (remote) target system.

You can either follow the sequence of configuration steps proposed by Installation Manager (by clicking on the **Next** button) or use the tree structure

(tree view) to select the sequence yourself. Installation Manager offers default settings for most configuration parameters.

2.2 Quick step guides

Quick step guides are provided below for an initial local installation of Windows in Typical mode and for a remote installation.

2.2.1 Initial local Windows installation

You will find the corresponding Quick Installation Guide in the booklet entitled "*Server Installation with ServerView Installation Manager*", which comes with your server. For more information, see "Local deployment" on page 29 and "Installing Windows (typical)" on page 149 and refer to the online help.

The only difference between a local installation in Customized mode and the procedure described below is that, when you select Customized, you are presented with a more extensive range of configuration options (see "Installing Windows (customized)" on page 160).

Follow the steps below on the target system:

1. Ensure that the DVD drive is the first drive accessed when the system starts. For more information, see "Booting Installation Manager from DVD" on page 31.
2. Power on the server.
3. Insert the ServerView Suite DVD 1 into the drive.

Installation Manager boots on the target system. Once the boot process is completed, the Installation Manager initial window is displayed.

4. Select the required interface language and country variant for the connected keyboard in this initial window.
5. If you want to save the configuration on a local drive:
   - Under **Status backup media**, select the **on local drive (floppy/USB stick)** option and then select the relevant drive (USB removable storage medium or floppy) in the list displayed.

   Make sure that the storage medium you select is not read-only.

6. If you want to access the installation media via a shared network drive (network share) or save the configuration to a network share:
   - Select **Connect status media and/or installation media via network**.

   You can either obtain a temporary IP address via DHCP or configure an IPv4 or IPv6 address manually for the current Installation Manager session, depending on your infrastructure.
   - Configure a temporary IP address for the current Installation Manager session.

   Depending on your infrastructure, you can either obtain a temporary IP address via DHCP or configure an IPv4 or IPv6 address manually.
7. Leave the other default settings unchanged and click on **Next**.
8. Click on **Deployment**.

The **Installation Manager Deployment Process Selection** window is displayed.

9. Select the default option **Typical** and click on **Next**.

The **Configure Your Unattended Operating System Installation** window opens.

10. Select the relevant Windows operating system and click on **Next**.

The **Configuration for Disks and RAID Controller** configuration step, in which you configure hard disk drives and RAID controllers, is displayed.

11. Define the boot medium. You can either select a hard disk or an existing RAID array or define a new RAID array. You can also select individual hard disks.

Note the following:

If you define a new RAID array, an existing array is deleted on the selected RAID controller.

12. Click on **Next**.

The dialog box for configuring an unattended Windows installation appears.

13. Specify the details of the Windows installation, including user and computer name, administrator password, time zone, IP address and SNMP settings for the ServerView management station.
14. Click on **Next**.

An overview of the installation parameters you configured is displayed.

15. Check your entries.

If necessary, use the **Back** button to make corrections to individual configuration steps.

Configuration is then completed.

16. Leave all inserted media unchanged and click on **Start Installation**.

The installation is then executed in unassisted mode in accordance with your settings.

Note that all data on the boot hard disk or selected RAID array is lost during the installation.

You only need to intervene in the installation process to change data media (for the operating system and, if necessary, for service packs and other applications).

Do not remove the DVDs or CDs until prompted!

Once the installation is complete, your server is ready for use.

2.2.2 Remote installation via deployment server

Some preparations are required on the deployment server and on the target system before a remote installation.

Preparing the deployment server for the remote installation
Follow the steps below:

1. Install Installation Manager as an independent application on the deployment server. Install the PXE service and data packages for the remote installation also (see "Installing Installation Manager" on page 69). Start Installation Manager on the deployment server (see "Starting Installation Manager on the deployment server" on page 96).
2. Start deployment (see "Starting remote deployment / remote system configuration" on page 104).
3. Select the target system settings (see "Select the target system (Remote Installation and Remote System Configuration Only)" on page 105).
4. Select the relevant operating system (see "Configure Your Unattended Operating System Installation" on page 110).

5. Follow the configuration steps below in the order given for the selected operating system:
   - Configure Server Management settings (optional, see "Server Configuration Manager" on page 129).
   - Configure hard disks and RAID controllers (see "Configuring mass storage devices" on page 130).
   - Configure the operating system parameters.
   - Select an application for the installation.

For more information about the relevant configuration steps, refer to "Configuring Windows and starting the installation" on page 147 and "Configuring Linux and VMware ESX/ESXi and starting the installation" on page 195.

6. Save the configuration file, giving it a name of your choice. If you do not specify a name, Installation Manager uses the default name *serstartbatch.xml*.

Preparing the target system for the remote installation
Follow the steps below.

In the BIOS setup of the target system:

1. Enable **PXE boot** mode (**Boot Sequence - Boot from a network device**)
2. Place the **PXE boot** in the first position in the boot sequence.

When making your settings for the target system (see "Select the target system (Remote Installation and Remote System Configuration Only)" on page 105), you can specify that PXE boot mode is to be activated (either with or without a restart of the target system) if the target system has a remote management component (BMC/iRMC/iRMC S2/S3/S4 management blade).

Starting the remote installation
Follow the steps below:

1. Power on the target system.

When making your settings for the target system (see "Select the target system (Remote Installation and Remote System Configuration Only)" on page 105), you can specify that PXE boot is to be initiated automatically after the installation starts if the target system has a remote management component (BMC/iRMC/iRMC S2/S3/S4 / Management Blade).

2. Start the remote installation on the deployment server (see "Backing up the configuration / starting the installation" on page 191 and "Backing up the configuration / starting the installation" on page 243).

Installation Manager is booted on the target system. The unattended installation is then started directly on the target hardware.

Operating system CDs/DVDs, service packs and application packages may be automatically connected via the network drive that you configured when configuring the Windows settings in the **System Settings** dialog box (see "System Settings" on page 170) and the Linux / VMware ESX/ESXi setttings in the **Basic Settings** dialog box (see "Basic Configuration" on page 208). Essential installation data is copied to the installation directory on the target system.

3 Local deployment

With local deployment, you configure and start the installation of the operating system locally on the target system. To do this, you need to boot Installation Manager on the target system from ServerView Suite DVD 1 or from a properly configured USB stick.

To enable booting from a USB stick, you first have to configure the stick (see "Configuring the USB stick" on page 34).

Follow the steps below on the target system for local deployment:

1. Define the boot drive:
   - If you want to boot from DVD: Define the DVD drive as a boot drive.
   - If you want to boot from USB stick: Define the USB device as a boot drive.
2. Boot the target system from the ServerView Suite DVD 1 or from a properly configured USB stick.

The boot operation automatically starts Installation Manager on the target system.

3. Start the deployment function.

The following figure illustrates the steps involved in a local installation.

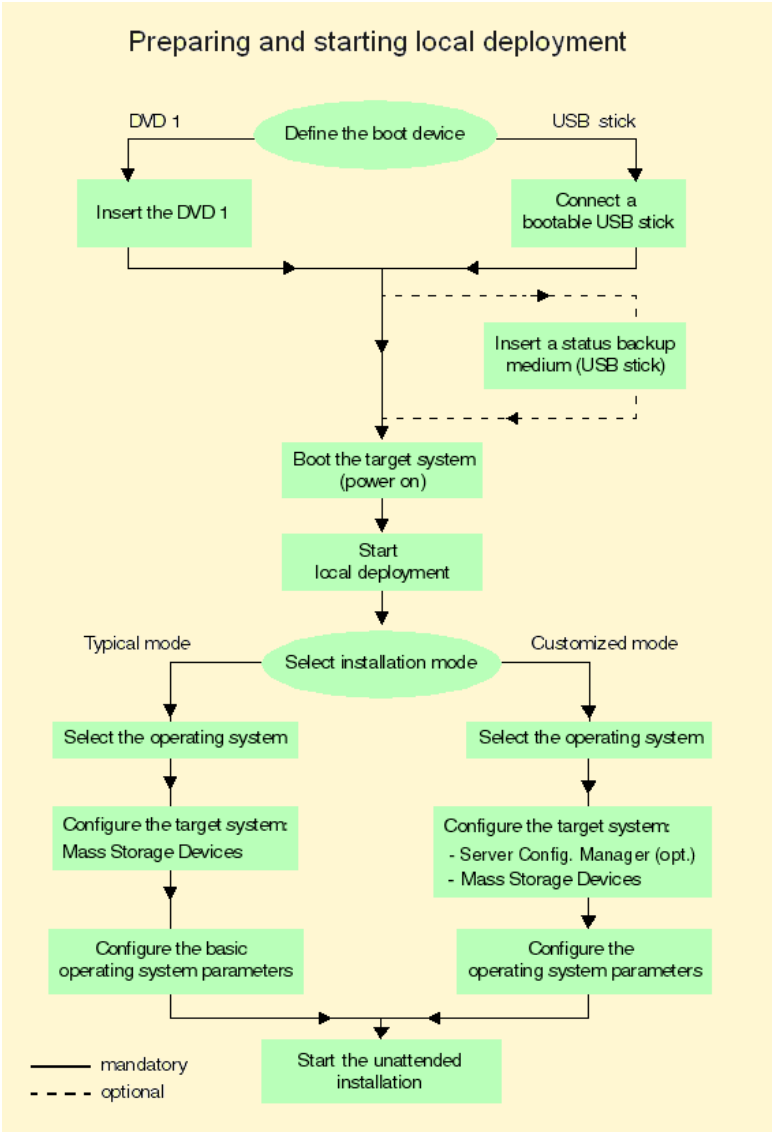


Figure 1: Local installation (overview)

3.1 Booting Installation Manager from DVD

You must define the DVD drive on the target system as a boot drive so that the target system can boot from PRIMERGY ServerView Suite DVD 1.

3.1.1 Standard PRIMERGY server

The DVD drive is configured as a boot drive in the BIOS setup in the standard PRIMERGY server delivery. If this configuration is subsequently changed, the following adjustments are required before the installation:

For DVD drives on an IDE/SATA bus:

- Ensure that the relevant IDE channel is activated in the system board BIOS and that the DVD drive is the first drive accessed when the system starts (refer to the manual on the BIOS setup or to the operating manual for your server for information about the **boot sequence**. Both manuals are included on the ServerView Suite DVD).

For DVD drives on a SCSI/SAS bus:

- Define the DVD drive in the system board BIOS as the first boot drive. You can also control the start properties of the DVD drive in the BIOS of your controller (refer to the operating manual for the controller).

3.1.2 PRIMERGY blade servers

The following steps are required to allow a server blade to boot from the DVD:

1. Connect the server blade to a DVD and floppy disk drive via a USB port.
2. Connect a keyboard, mouse and monitor on the rear of the blade server and route these to the relevant server blade using KVM switches.
3. Define the DVD drive as a boot drive.

The required DVD drives and floppy disk drives are available as optional accessories.

Connecting the DVD drives and USB storage medium to the server blade
Follow the steps below:

- Connect the breakout cable provided to the USB/VGA front connector of the relevant server blade.
- Connect the DVD drive and, if necessary, a USB storage medium (floppy disk drive or USB stick) to the USB ports on the breakout cable.
- If the connected devices are not powered or are insufficiently powered by the USB port, connect both devices to an external power supply.
- Switch on the blade server and the relevant server blade.

Connecting the monitor, keyboard and mouse to the PRIMERGY blade server
Follow the steps below:

- Insert the purple keyboard connector and green mouse connector in the PS/2 ports on the rear of the blade server.
- Connect the monitor's data cable to the VGA connector (3, blue) on the rear of the blade server and plug the monitor power cable into a grounded mains outlet.
- Press the KVM switch (1) on the front panel of the server blade to route the keyboard, mouse and monitor to it.

For more information about the location of the KVM switch, refer to the operating manual for your blade server.

Defining the DVD drive as a boot drive
Follow the steps below:

- When prompted, press [F2] to access the BIOS setup of the server blade.
- In the Phoenix BIOS Setup Utility, select the **Boot** menu and activate the **Boot from CD-ROM Drive** option.
- Press [ESC] on your keyboard and select the **Exit Saving Changes** option in the **Exit** submenu.

3.2 Booting Installation Manager from a USB stick

As an alternative to booting ServerView Suite from the DVD, you can also boot from a USB stick. To enable booting from a USB stick, you first have to configure

a boot block on the stick. Then copy the entire contents of the ServerView Suite DVD 1 to the USB stick. You can then start the Installation Manager from a USB stick on any USB-bootable server.

3.2.1 Requirements

To make a USB stick bootable, you need:

- A PC on which the Vista or Windows 2008 operating system is installed.
- Administrator rights on the selected PC.
- The USB stick used should meet the following requirements:
  - Storage capacity of 8 GB or higher
  - USB V2.0
  - The USB stick must be bootable.

3.2.2 Configuring the USB stick

Note that you must be logged on as administrator or have administrator rights to configure the USB stick.

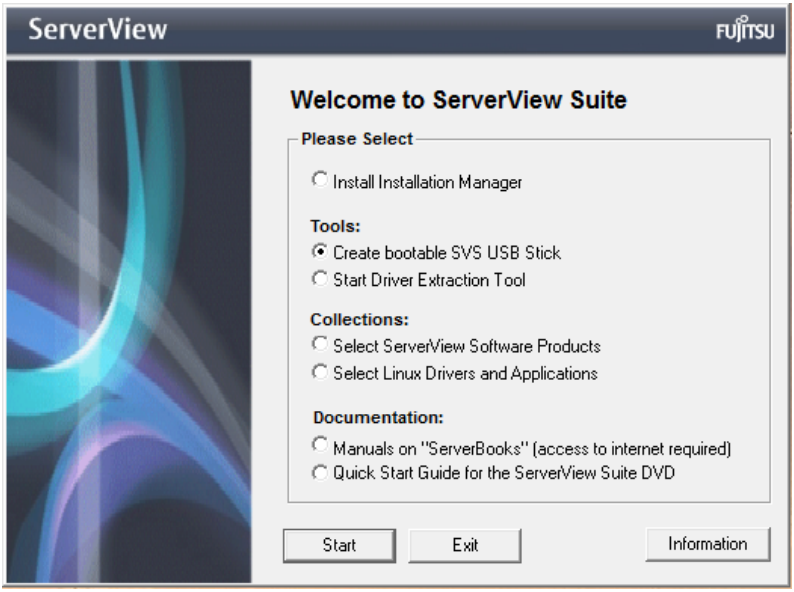
1. Insert the ServerView Suite DVD 1 into the DVD drive of a computer running MS Windows Vista, MS Windows 7, MS Windows Server 2008, MS Windows Server 2008 R2, or MS Windows Server 2012.
2. Optional: Copy the complete contents of the current ServerView Suite DVD 1 onto the selected PC. This may significantly reduce the time required for "loading".
3. Connect the USB stick to the PC.
4. If the USB stick is not recognized, make sure that support for USB devices is enabled in the BIOS setup. If the USB stick is not recognized, restart the computer.

If the USB stick is still not recognized, the stick is either defective or the BIOS system of the PC is not designed for USB devices. In the latter case, you need a different PC that meets the above-mentioned requirements.

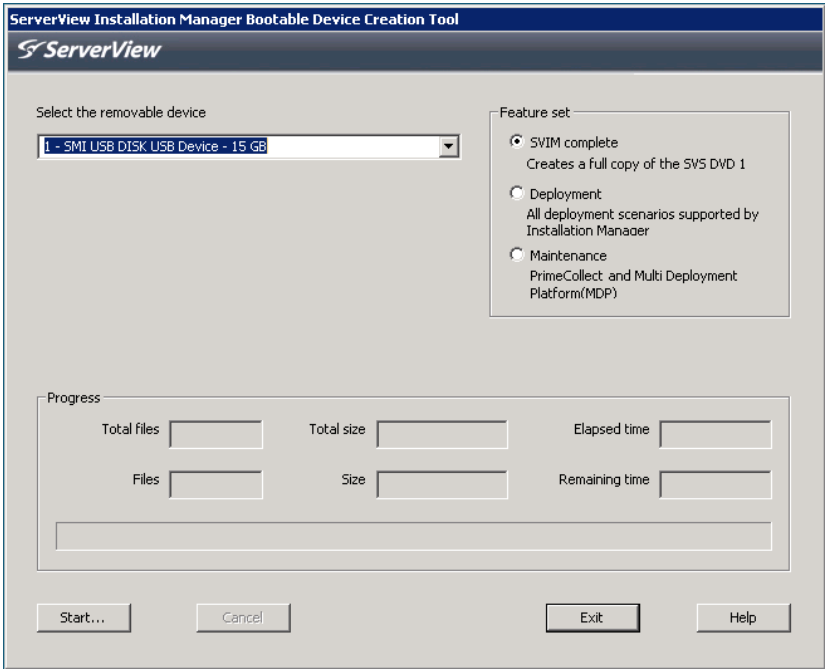
5. Start the **Setup.exe** program in the root directory of the DVD (or the DVD copy). If "Auto Play" is activated, your system will start **Setup.exe** automatically.

Note for Windows 7 or Windows Server 2008 R2:

To execute **Setup.exe** you need to be logged in as Administrator.



6. Select **Create bootable SVS USB Stick** and click **Start**.



7. Select the USB stick you want to load up.
8. Select the feature set you want your stick to support when it is loaded.
   - Feature set **SVIM complete**:

   Creates a full copy of the SVS DVD on USB stick.

   Includes feature sets **Deployment** and **Maintenance**.

   Requires an USB stick of 8 GB capacity.

   - Feature set **Deployment**:

   Prepares the USB stick to be a bootable substitute of the SVS DVD supporting OS deployment on PRIMERGY systems (local, remote & BX400 Easy Installation)

   Includes feature set **Maintenance**.

   Requires an USB stick of 8 GB capacity.

   - Feature set "Maintenance":

Prepares the USB stick to be a bootable substitute of the SVS DVD supporting SVIM's maintenance functionalities

- ServerView PrimeCollect
- Multi Deployment Platform (MDP)

Requires an USB stick of 3 GB capacity.

9. Click **Create SVIM on removable device ...**.

3.3 Starting Installation Manager on the target system

Booting from ServerView Suite DVD 1

To boot the target system from the ServerView Suite DVD 1, proceed as follows:

1. Ensure that the DVD drive is accessed, when you start the target system.
2. Insert the ServerView Suite DVD 1 into the drive previously defined as the boot drive.
3. Power on the server.

The Installation Manager is started automatically on the target system on boot.

Booting from a prepared USB stick

You can also use the USB stick prepared for booting to save status information. The status information is added to the USB stick.

To boot the target system from a USB stick, proceed as follows:

1. Connect the USB stick to the USB port previously defined as the boot drive.
2. Ensure that the BIOS of the target system is configured so that it boots automatically from a USB stick.
3. Power on the server.

If the USB stick is not recognized, make sure that support for USB devices is enabled in the BIOS setup. If the USB stick is not recognized, restart the computer. By now, the USB stick should be listed as a bootable device in the BIOS.

If the USB stick is still not recognized, it may be connected to a non-bootable USB port, or the BIOS system of the PC is not designed for USB devices.

In the latter case, you will have to start the Installation Manager from the DVD.

The Installation Manager is started automatically on the target system on boot.

3.4 Windows Boot Manager - Selecting standard / express installation

The **Windows Boot Manager** window is not displayed in UEFI boot mode.

Starting the boot process opens the **Windows Boot Manager** window where you can determine whether you want to start a standard server installation or to use an accelerated procedure for installing a Windows Server 2008 x86 / MS Windows Server 2008 (R2) x64 / MS Windows Server 2012 operating system.

Windows 2008 x86 / Windows 2008 (R2) x64 / Windows 2012 express installation can only be accomplished as a "mere" operating system installation. The following restrictions apply:

- Only MS Windows Server 2008 x86 / MS Windows Server 2008 (R2) x64 / MS Windows Server 2012 operating systems can be installed.
- Configuring any hardware settings by using the Server Configuration Manager is not possible. However, hardware settings can be configured after operating system installation has been completed.
- Configuring RAID controllers is not possible. RAID controller configuration should therefore be completed before an express installation is started.

Standard installation and express installation (Windows Server 2008 / 2008 R2 / 2012 only)

To install a MS Windows Server 2008 x86 / MS Windows Server 2008 (R2) x64 / MS Windows Server 2012 operating system via standard installation, the automatic boot process initially starts the WinPE 5 platform and subsequently has to reboot the server to change to the appropriate WinPE32 (Windows Server 2008 x86 / Windows Server 2008 (R2) x64) / WinPE 4 (Windows Server 2012) Windows Server platform. In contrast, Windows 2008 x86 / Windows 2008 (R2) x64 / Windows 2012 express installation shortens this procedure as follows:

- The deployment process in the whole is accelerated.
- The appropriate WinPE 3.1 (Windows 2008 / Server 2008 (R2) x64) / WinPE 4 (MS Windows Server 2012) platform is used right from the start. A server reboot is not necessary.

Windows Boot Menu

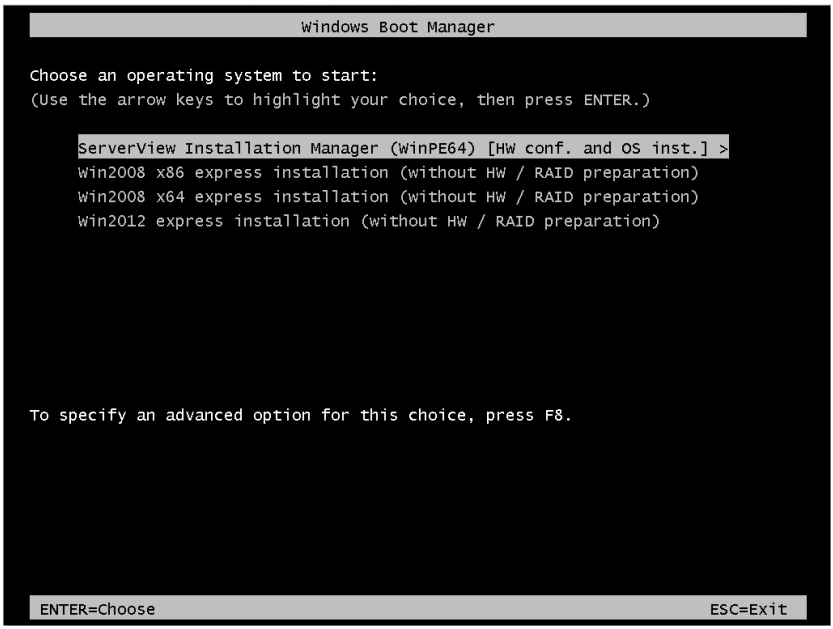

Windows Boot Manager
Choose an operating system to start:
(Use the arrow keys to highlight your choice, then press ENTER.)
ServerView Installation Manager (WinPE64) [HW conf. and OS inst.] >
Win2008 x86 express installation (without HW / RAID preparation)
Win2008 x64 express installation (without HW / RAID preparation)
Win2012 express installation (without HW / RAID preparation)
To specify an advanced option for this choice, press F8.
ENTER=Choose
ESC=Exit

Figure 2: Windows Boot Manager

ServerView Installation Manager (WinPE64) [HW conf. and OS inst]
Standard installation of the operating system. All supported operating systems can be installed. No restrictions are made.

If you do not select any options in the **Windows Boot Menu**: After a delay of some seconds, Installation Manager will automatically continue booting with this option.

Win2008 x86 express installation (w/o HW / RAID preparation)
Installation Manager performs an express installation of a 32-bit Windows Server 2008 operating system.

Win2008 x64 express installation (w/o HW / RAID preparation)
Installation Manager performs an express installation of a 64-bit Windows Server 2008 / Windows Server 2008 R2 operating system.

Win2012 express installation (w/o HW / RAID preparation)
Installation Manager performs an express installation of a Windows Server 2012 operating system.

Maintenance functions PrimeCollect and MDP
The maintenance functions **PrimeCollect** and **MDP** are available from all the boot modes mentioned above. To enable PrimeCollect or MDP, you can select the corresponding options in the Installation Manager initial window (see section "Installation Manager - initial window" on page 41).

3.5 Installation Manager - initial window

After booting, the Installation Manager opens the following window where you can select the GUI language.

Figure 3: ServerView Installation Manager - select the GUI language

- Select your preferred GUI language by clicking on the corresponding button.

The Installation Manager initial window is then displayed.

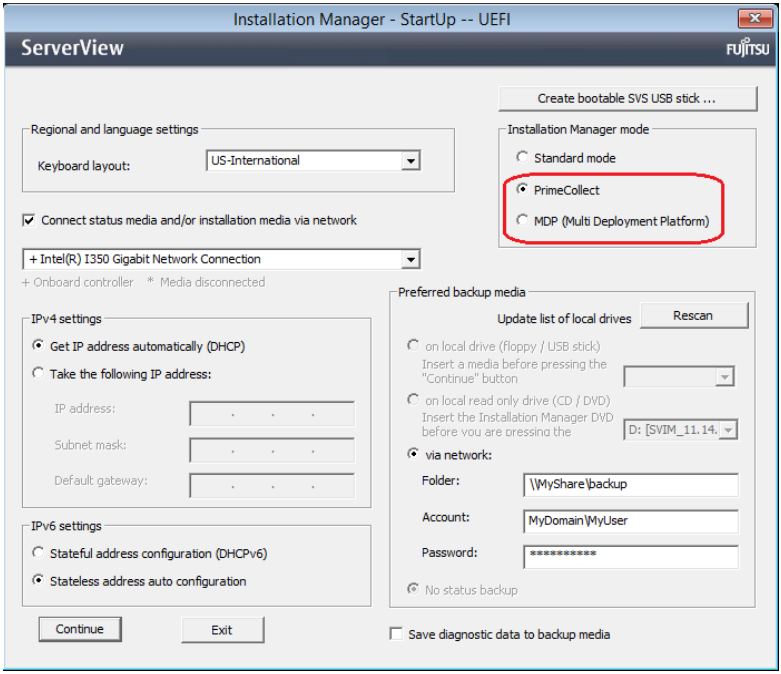


Figure 4: ServerView Installation Manager - initial window

Create bootable SVS USB stick ...

Creates a bootable USB stick, which allows you to boot the Installation Manager from a USB stick on any USB-bootable server.

- For the requirements to make a USB stick bootable, see "Requirements" on page 33.
- For details on configuring a USB stick, see "Configuring the USB stick" on page 34.

Clicking on **Create bootable SVS USB stick ...** has the same effect as starting the **Setup.exe** program in the root directory of the DVD.

After booting, the **Standard mode** option is enabled by default for Installation Manager under **Installation Manager mode**.

You can also start the following programs from the initial window:

PrimeCollect

This program collects diagnostic data for service personnel. More information about PrimeCollect is provided on the ServerView Suite DVD.

MDP (Multi Deployment Platform)

In this mode, the Installation Manager platform is used as a multi-deployment platform, on which customer-specific MDP agents can be started. For more information, refer to the White Paper on the ServerView Suite DVD.

More information about these products is provided on the ServerView Suite DVD.

Installation Manager settings

You can configure the following settings in the initial window:

Regional and language settings

The keyboard layout is set by default to the country variant you selected for your computer.

If necessary, you can select another country variant for the keyboard layout.

Connect status media and/or installation media via network

You must select this option if you are using a medium with a prepared configuration file and/or an installation medium accessed via the network.

You can either obtain a temporary IP address via DHCP or configure an IPv4 or IPv6 address manually for the current Installation Manager session, depending on your infrastructure.

IPv4 settings

These settings are used to configure an IPv4 address for the current Installation Manager session.

Get IP address automatically (DHCP)

This option retrieves the IPv4 address dynamically via a DHCP server in the network.

Do not select the **Get IP address automatically (DHCP)** option if a DHCP server is not available in your network.

If you enable the **DHCP** option and a DHCP server is not available, the server will not boot because it will be unable to get an IP address.

Take the following IP address

Define a static IPv4 address here if the IP address is not to be retrieved from a DHCP server.

IP address

IPv4 address for the current session

Subnet mask

Subnet mask

Default gateway

Default gateway

IPv6 settings

Configures an IPv6 address for the current Installation Manager session.

Stateful address configuration (DHCPv6)

This option retrieves a (stateful) IPv6 address dynamically via a DHCPv6 server in the network.

Stateless address auto configuration

Retrieves a (stateless) IPv6 address using autoconfiguration.

Status backup media

Select the relevant data backup medium:

on local drive (floppy / USB stick)

Insert the medium (floppy disk or USB stick) and select the relevant drive letter.

The backup medium must not be write-protected.

A USB stick must already be inserted in the USB port before the system starts.

If you forgot to do this and want to save the configuration file: Insert the USB stick now and start a reboot from the ServerView Suite DVD 1.

via network

Define the required share settings and enter the folder, account and password.

No status backup

Select this option if you will not need the configuration data after the end of the session.

Note that the configuration data is lost at the end of the session and cannot be restored if you select this option.

General buttons

The following buttons are provided in the initial window:

Rescan

Updates the list of local drives.

Use this function, if you have connected a USB device to your PC after Installation Manager has been started.

Continue

Takes you to the next window.

Exit

Closes the Installation Manager and terminates the session.

- Click on **Continue**.

The settings specified in this dialog box becomes effective and the user interface of the Installation Manager is displayed.

3.6 Graphical user interface (GUI) of the Installation Manager

After you have started Installation Manager from the DVD or from the USB stick, the start page of the Installation Manager GUI is displayed.

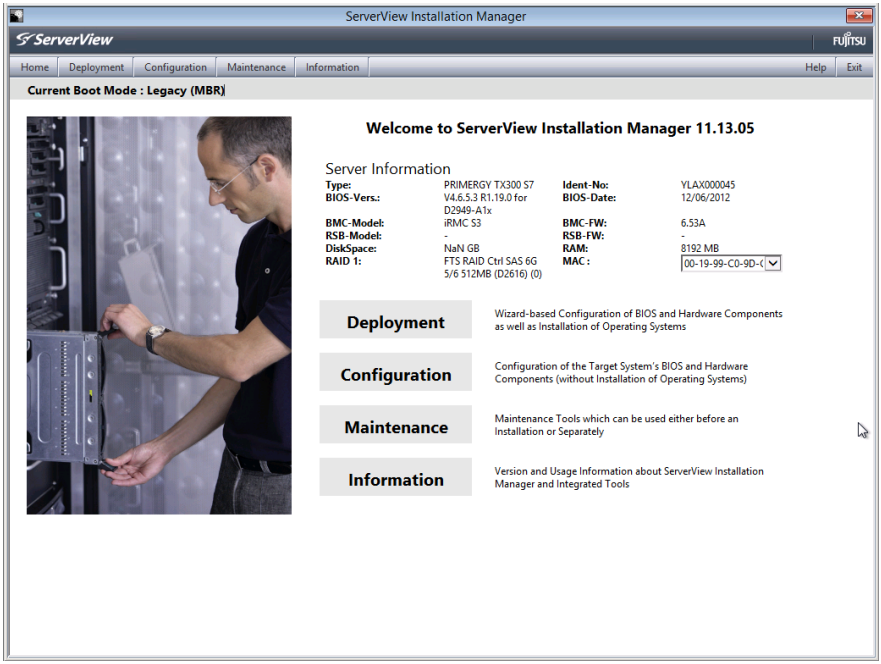


Figure 5: ServerView Installation Manager - graphical user interface (GUI)

The Installation Manager GUI comprises the following areas:

- Menu bar
- Display area

Menu bar
You can execute the following functions from the menu bar:

Home
Displays the welcome screen of the Installation Manager GUI.

Deployment
Starts system configuration and installation of an operating system.

Configuration
Starts configuration of BIOS and hardware of the target system without installing an operating system.

Maintenance
Offers a selection of maintenance programs, which you can use to perform configuration and maintenance tasks on the server, independently of the operating system installation.

Information
Provides information about PRIMERGY servers and installation.

Exit
Offers Options to reboot or shut down the server.

Please remove all removable media from the corresponding drives before you shut down or reboot the server.

Reboot
Reboots the server.

Shutdown
Shuts down the server.

Information
Provides information about PRIMERGY servers and installation.

Help
Starts the online help.

Display area
The display area displays the dialog step associated with the currently selected function.

In the case of the initial page of the Installation Manager GUI, the display area comprises the following elements:

- The Installation Manager version is displayed at the top of the screen.
- The system data of the PRIMERGY server is displayed under **Server Information**.
- The **Deployment**, **Configuration**, **Maintenance** and **Information** links allow you to start the same functions that can be started from the corresponding function buttons in the menu bar (see **Menu bar** above).

3.7 Starting local deployment

Follow the steps below to start the local deployment on the target system:

1. In the **MAC** field of the Installation Manager GUI (see "Graphical user interface (GUI) of the Installation Manager" on page 46), the MAC address of the network card is displayed.
2. Click on the Deployment button in the main screen area or on the Deployment option in the menu bar.

The **Installation Manager Deployment Process Selection** window is displayed.

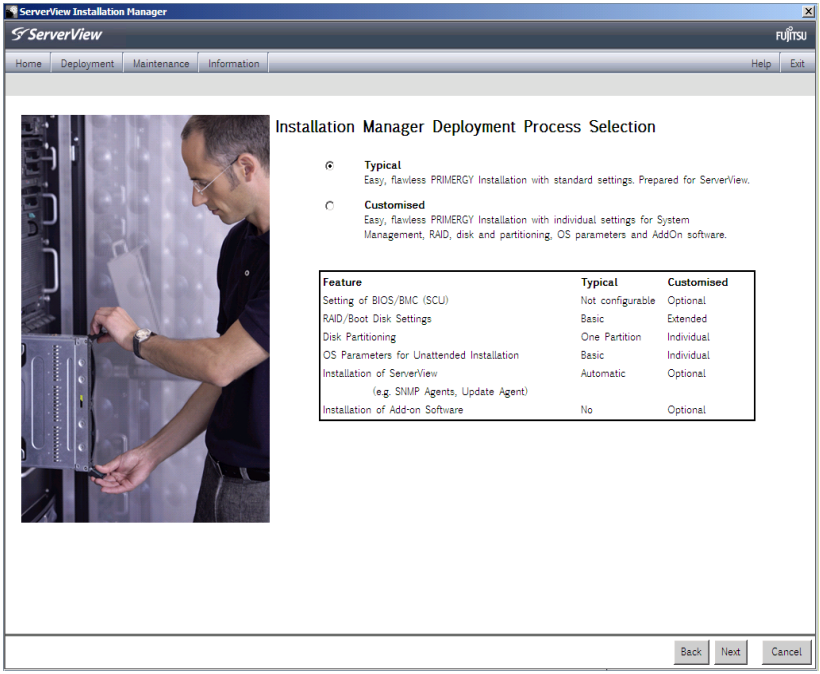


Figure 6: Installation Manager Deployment Process Selection window

3. Select **Typical** or **Customized**, depending on whether you want to execute the configuration and/or installation with default values (**Typical**) or with values that meet your specific requirements **(Customized).**

The following table shows the various configuration options available in the **Typical** and **Customized** installation modes:

Configuration of ...	**typical**	**customized**
BIOS/BMC settings with Server Configuration Manager	-	optional
RAID/hard disk settings	basic	advanced
Hard disk partitioning	1 partition	individual settings
Operating system parameters	basic	individual settings
Installation of ServerView products (e.g. SNMP agents, update agent)	automatic	optional

Configuration of ...	typical	customized
Installation of add-on software	-	optional

4. Click on **Next**.

   The initial window for configuring the automatic installation process is displayed:

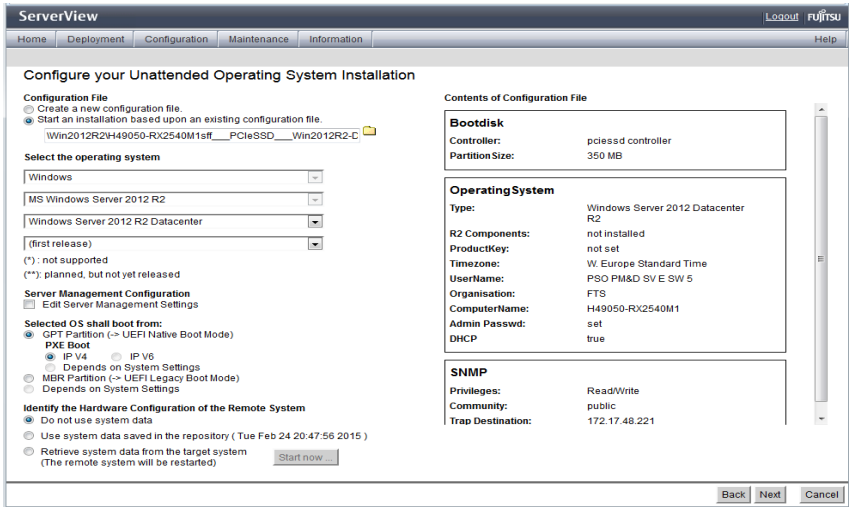


Figure 7: Initial window: Configure your Unattended Operating System Installation

Configuration file

Here you specify whether you want to create a new configuration file or use the values from an existing one.

Create a new configuration file

Creates a new configuration file.

Start an installation based upon an existing configuration file

In **Customized** mode, you can select a configuration file. The interpreted contents of this file are then displayed on the right of the window under **Contents of Configuration File**.

Click the folder icon to select an existing configuration file. A dialog box opens that allows you to select an appropriate configuration file from a local backup medium.

Installation Manager provides the configuration file's content in the current session as default values for the configuration. You can use these values as required and save them in the same configuration file or a new configuration file at the end of the session.

Contents of Configuration File

The contents of the configuration file (if one exists) are displayed here.

Select the operating system

Select the version, edition and service pack of the operating system you want to install.

In case of a Windows Server installation: You can also select whether to install the **Core** variant or the Standard variant (**noCore**) of the operating system.The Core variants are displayed in the list of selectable Windows editions.

In the case of a Windows Server 2008 (R2) express installation: Only the operating system configured for express installation can be selected (see "Windows Boot Manager - Selecting standard / express installation" on page 38).

Select the version, edition and service pack of the operating system you want to install.

In the case of a Windows Server 2008 (R2) express

installation: Only the operating system configured for express installation can be selected (see "Windows Boot Manager - Selecting standard / express installation" on page 38).

Server Management Configuration

Edit Server Management Settings

If you select this option, Server Configuration Manager is called as part of the customized configuration of the installation process. Server Configuration Manager allows you to configure server-specific system settings for the target system.

This option is not available in the following cases:

- in **Typical** installation mode
- in the context of Windows Server 2008 (R2) express installation.

5. Click on **Next**.
   The wizard for configuring and starting the unattended installation process starts.
6. To install a Windows operating system, see "Configuring Windows and starting the installation" on page 147.
   - Typical Windows installation.
   - Customized Windows installation.

   If you want to install Windows Server Core, you must select **Customized** mode.
7. To install a Linux operating system or VMware ESX/ESXi, see "Configuring Linux and VMware ESX/ESXi and starting the installation" on page 195.
   - Typical Linux / VMware ESX/ESXi installation.
   - Customized Linux / VMware ESX/ESXi installation.

3.8 Starting local system configuration

Follow the steps below to start the local system configuration on the target system:

1. In the **MAC** field of the Installation Manager GUI (see "Graphical user interface (GUI) of the Installation Manager" on page 46), the MAC address of the network card is displayed.
2. Click on the **Configuration** button in the main screen area or on the **Configuration** option in the menu bar.
3. Click on **Next**.

   The initial window for configuring the server system is displayed:

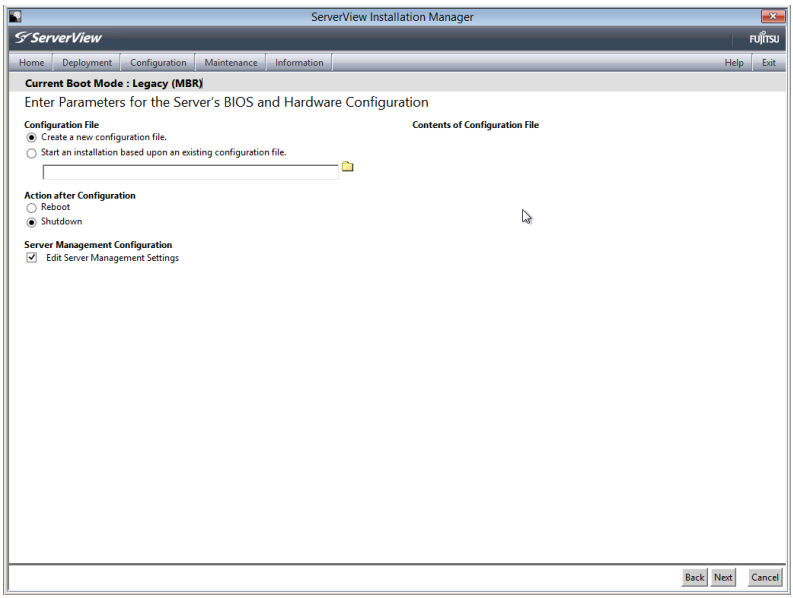


Figure 8: Initial window: Configure

Configuration file

Here you specify whether you want to create a new configuration file or use the values from an existing one.

Create a new configuration file

Creates a new configuration file.

Start an installation based upon an existing configuration file

Here you can select a configuration file. The interpreted contents of this file are then displayed on the right of the window under **Contents of Configuration File**.

Click the folder icon to select an existing configuration file. A dialog box opens that allows you to select an appropriate configuration file from the **configfiles** directory of the Installation Manager repository (remote installation) or from a local backup medium (local installation, customized mode).

Installation Manager provides the configuration file's content in the current session as default values for the configuration. You can use these values as required and save them in the same configuration file or a new configuration file at the end of the session.

You can only use configuration files designed for system configuration. Configuration files created for operating system installation cannot be used in this context.

Contents of Configuration File

The contents of the configuration file (if one exists) are displayed here.

Action after Configuration

Here you specify whether the server shall be rebooted or shut down after configuration is completed.

Reboot

Reboots the server after configuration is completed.

Shutdown

Shuts down the server after configuration is completed.

Server Management Configuration

Edit Server Management Settings

If you select this option, Server Configuration Manager is called as part of the system configuration process. Server Configuration Manager allows you to configure server-specific system settings for the target system.

5. Click on **Next**.
   The system configuration starts.

Installation Manager wizards

The following wizards guide you through the system configuration:

- Server Configuration Manager

The Server Configuration Manager is only available if you select the **System Management Configuration** option.

This wizard helps you to configure the general system behavior of the target system and of the target system BMC/iRMC/iRMC S2/S3/S4 where applicable. The Server Configuration wizard is described in section "Server Configuration Manager" on page 129.

- Wizard for configuring RAID controllers

You use this wizard to configure RAID controllers in the target system. The wizard is described in section "Configuring RAID controllers" on page 135.

Configuration Info (Summary)

This configuration step provides a summary and overview of all system settings you have configured. You can now save your configuration to a file and/or enable your settings.

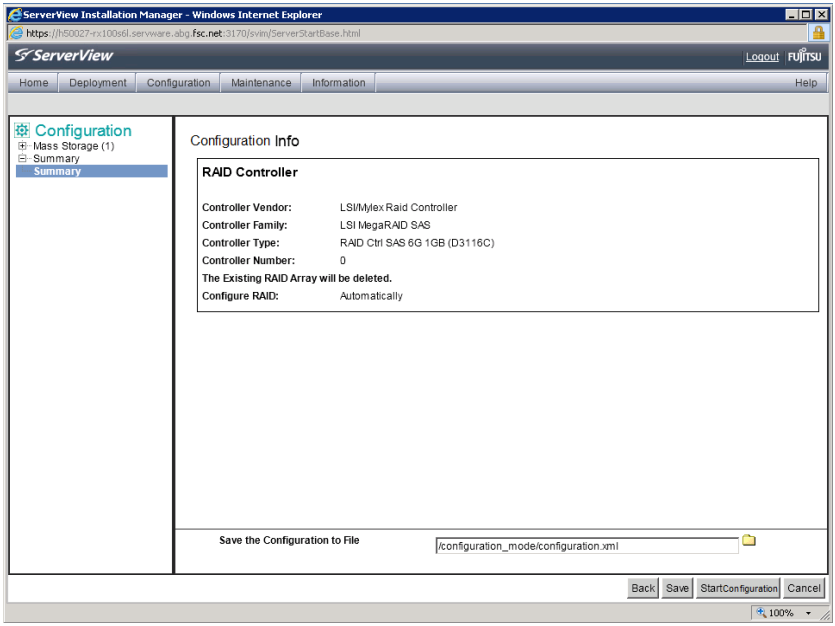


Figure 9: Backing up the configuration / starting system configuration

Save Configuration to File

Defines a name for the configuration file (default name: *serstartbatch.xml)*, in which the configured parameters are saved.

Click the folder icon to define a name for the configuration file. A dialog box is displayed.

- You can specify the file name (default name: *serstartbatch.xml*). You can overwrite this default name with any name of your choice.
- You can select or create a folder in which Installation Manager will store the configuration file. The folder is stored on the local backup medium:

You should not use the default name for long-term backup of the configuration data.

The configuration file is created as a temporary file for the current Installation Manager process and is no longer available for future starts of the Installation Manager.

To save the configuration file permanently, you can save it to an external medium (e.g. memory stick).

Save

Backs up the configured parameters in the file that you have specified in the **Save the Configuration to File** dialog.

System configuration is not started.

Start Configuration

Starts system configuration and backs up the configured parameters in the file you have specified in the **Save the Configuration to File ...** dialog.

If you are using an external backup medium (USB stick), note:

Do not remove the medium. Otherwise, the system configuration process may be stopped.

4 Remote deployment

For a remote installation of the operating system, install and start Installation Manager on a deployment server .

In this manual, the term "deployment server" refers to servers on which a PXE server is installed.

This chapter provides information about the following topics:

- Remote installation (overview)
- Preparing the deployment server for the remote installation:
  - Installing a DHCP server (if one does not already exist in the LAN segment)
  - Installing a PXE server (if one is not already available)
  - Installing data packages for the remote installation
  - Installing Installation Manager
- Preparing the target system for a PXE boot
- Starting remote deployment
- Multi-deployment of PRIMERGY servers

The following figure illustrates the steps involved in a remote installation:

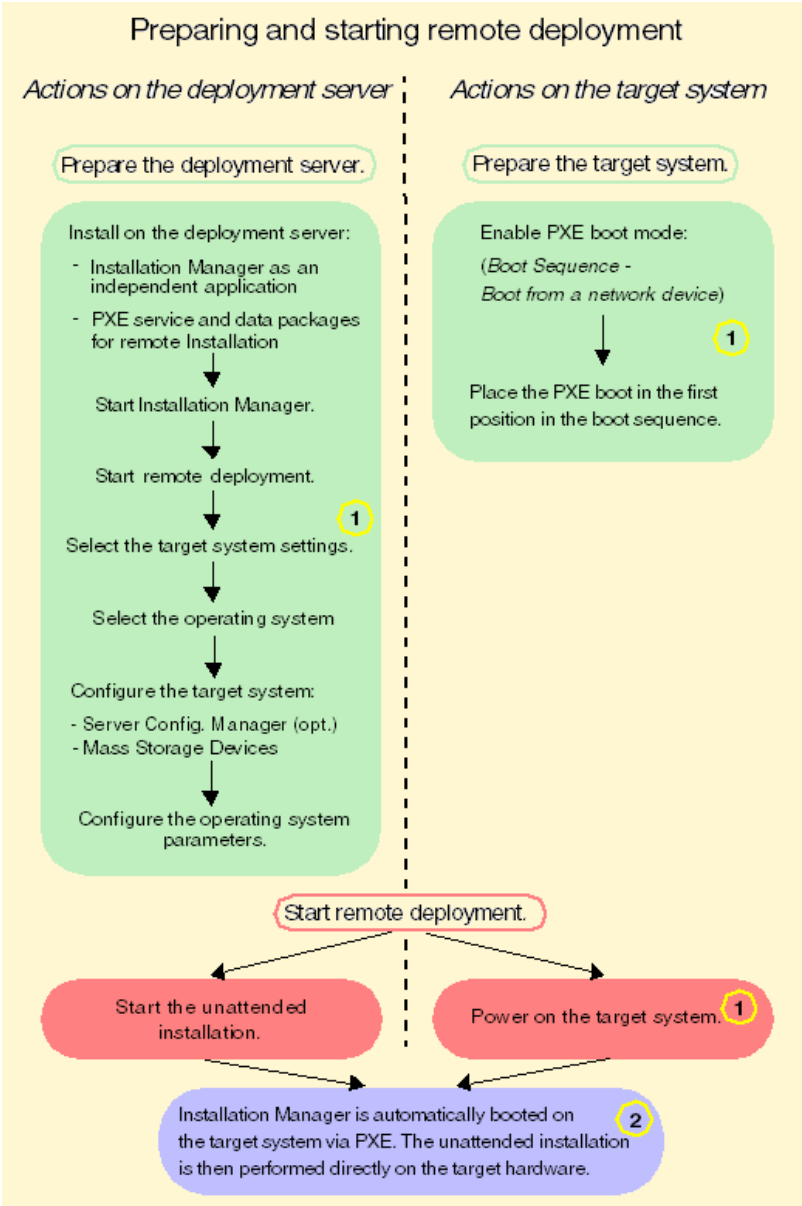

Preparing and starting remote deployment
Actions on the deployment server
Actions on the target system
Prepare the deployment server.
Prepare the target system.
Install on the deployment server:
- Installation Manager as an independent application
- PXE service and data packages for remote Installation
Start Installation Manager.
Start remote deployment.
1
Select the target system settings.
Select the operating system
Configure the target system:
- Server Config. Manager (opt.)
- Mass Storage Devices
Configure the operating system parameters.
Enable PXE boot mode:
(Boot Sequence -
Boot from a network device)
1
Place the PXE boot in the first position in the boot sequence.
Start remote deployment.
Start the unattended installation.
Power on the target system.
1
Installation Manager is automatically booted on the target system via PXE. The unattended installation is then performed directly on the target hardware.
2

Figure 10: Remote installation (overview)

Explanation

1) If the target system has a remote management interface (BMC, iRMC, iRMCS2/S3, or management blade), you can specify in the **Select the target system step** that the PXE mode is to be activated automatically on the target system as part of the deployment process (either with or without a restart of the target system). Depending on your settings, it may therefore not be necessary to separately enable PXE boot mode / place the PXE boot in the first position / power on the target system.
2) For details, see section"Progression of the installation process" on page 64.

4.1 Remote installation (overview)

A remote installation allows you to install an operating system on a PRIMERGY server from a deployment server via the network. For this purpose, Installation Manager is booted on the target system using the Preboot eXecution Environment (PXE) mechanism and is executed there remotely.

4.1.1 Preparing the installation

In the LAN segment of the target system a DHCP server is required for PXE boot.

For Blade Server systems (such as PRIMERGY BX600):

The server blade that is to be installed must be connected to the local network via the switch blade.

The following steps are required to prepare for a remote installation:

1. Prepare the deployment server for the remote installation.
   - Install the Installation Manager package.

   The package consists of the following components, which are installed automatically by the Installation Manager installation wizards. These wizards detects whether some of these components are already installed.
     - Fujitsu PXE Service
     - Installation Manager software
     - Installation Manager Data Packages
2. Prepare the remote resource server (optional).

You may use a remote server for storing and sharing the resources required for the installation process. In this case, the target server has to be granted the access rights to access the remote resource server.

3. Prepare the target system for the remote installation.
   - Activate the PXE boot mode in the BIOS.
   - Configure the boot sequence for the PXE boot (the **Boot from a network device**) option.

Alternatively, you can configure the boot sequence via the web interface of the iRMC / iRMC S2/S3/S4 / Management Blade of the target system.

4. On the deployment server:
   - Start Installation Manager and use the wizards provided to configure the installation.

   Save the configuration, if required.
   - Initiate the installation process.
5. (Re)start the target system. This initiates the PXE boot of the target system.

When making your settings for the target system, you can specify that PXE boot mode is to be activated (either with or without a restart of the target system) if the target system has a remote management component (BMC/iRMC/iRMC S2/S3/S4/Management Blade).

4.1.2 Progression of the installation process

After the installation process is started from the deployment server, installation of the operating system continues automatically. In other words, the user is not prompted to enter any other data for the remainder of the installation process.

If a user account for accessing Installation Manager data packages on the deployment server was created during configuration of the installation process, you are prompted to enter this user account and the corresponding password.

The installation process

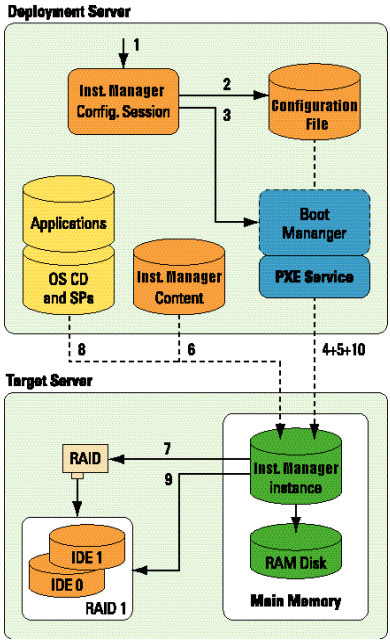
- establishes a platform structure for the selected system hardware.
- creates a status folder.
- activates the PXE server access list, which contains the current MAC address of the target system.

For security reasons, the PXE service only accepts PXE requests from MAC addresses specified in the access list.

Following the PXE boot process, the Installation Manager service that was started on the target system copies the configuration file from the deployment server and connects to the relevant data media in the network (for the Installation Manager-specific content, operating system, service packs and applications). The unattended installation is then executed in the same way as if Installation Manager had been started from a local DVD drive on the target system.

Once the installation is complete, an installation log, which was created for the current remote installation process, is copied to the deployment server and is saved there. You can display the logged data using the Installation Monitor (see chapter "Installation Monitor - Monitoring remote installation" on page 245).

The following figure illustrates the steps involved in a remote installation.



1. Configure the installation process.
2. Save the configuration file.
3. Start the PXE service (so that the deployment server can accept requests from the target system).
4. Initiate a PXE (re)boot of the target system (manually or automatically via iRMC/Management Blade).
5. The PXE service boots a client instance of Installation Manager.
6. The deployment server directory structure is loaded.
7. The client instance creates the RAID array and OS partitions.
8. The client instance connects to the data medium for the operating system, application software and service packs.
9. The client instance starts the automatic installation.
10. The deployment server starts the reboot of the installed server in order to start the operating system and starts customer-specific scripts for installing additional applications (forexample, ServerView agents).

Figure 11: Progression of a remote installation

For more information about the PXE boot, see section "The PXE process" on page 279.

4.2 Preparing the deployment server

The LAN segment of the Installation Manager requires a DHCP server.

For multi segment deployment see section "Configuring router for multi segment deployment" on page 92.

For Blade Server systems (such as PRIMERGY BX600):

The server blade that is to be installed must be connected to the local network via the switch blade.

Before you can perform a remote installation, the following software packages must be installed on the deployment server:

- Windows Server 2008 Server or Windows Server 2012 platform
- Internet Explorer V7 (or higher) or Mozilla Firefox V3.0 or higher (recommended)
- Installation Manager package

The package consists of the following components which are installed automatically by the Installation Manager installation wizards. These wizards detects whether some of these components are already installed.

  - Fujitsu PXE Service
  - Installation Manager software
  - Installation Manager Data Packages

- For Linux and VMware ESX installations:

NFS, HTTP or FTP server

- If dynamic IP adress management by DHCP is used, only one DHCP server per LAN segment is allowed. If multiple DHCP servers are in use, only "reserved IP" address assignemnet is allowed.
- If multiple PXE servers are in use in one LAN segment, all PXE servers must be configured in passive/defensive mode". The Server reacts on MAC addresses only listed in its current activated MAC adress/Image assignment list.

For standard Installation Manager / Deployment Manager usage the original Fujitsu PXE service is required.

It may not be possible to start the Installation Manager on the deployment server in the following cases:

- A PXE service is already installed on the deployment server system (e.g. SystemcastWizard, SystemcastWizard Professional, Microsoft RIS, Symantec Altiris).
- Installing or uninstalling ServerView Suite components (e.g. ServerView Operations Manager) prior to version 4.80 on a deployment server system.

In this case, start the repair tool *RepairAfterOMUpdate.exe*. Once Installation Manager has been installed, you will find the repair tool on the deployment server system under:

<drive>:\ Program Files\Fujitsu\ServerView Suite\Installation Manager.

Do not use ServerView Installation Manager V10.nn.nn together with ServerView Integration Pack for Altiris Deployment Server V3.0 (or older). For compatibility reasons, use ServerView Integration Pack for Altiris Deployment Server V3.1 (or later).

4.2.1 Installing and configuring a DHCP server on the deployment server

The installation of a DHCP server on the deployment server is only required if a DHCP server is not already available in the LAN segment of the deployment server.

Beside Scope option (060: PXE client) no further settings related to bootstrap images or bootstrap server definition should be assigned. These are required for BootP protocol, but not for a PXE protocol.

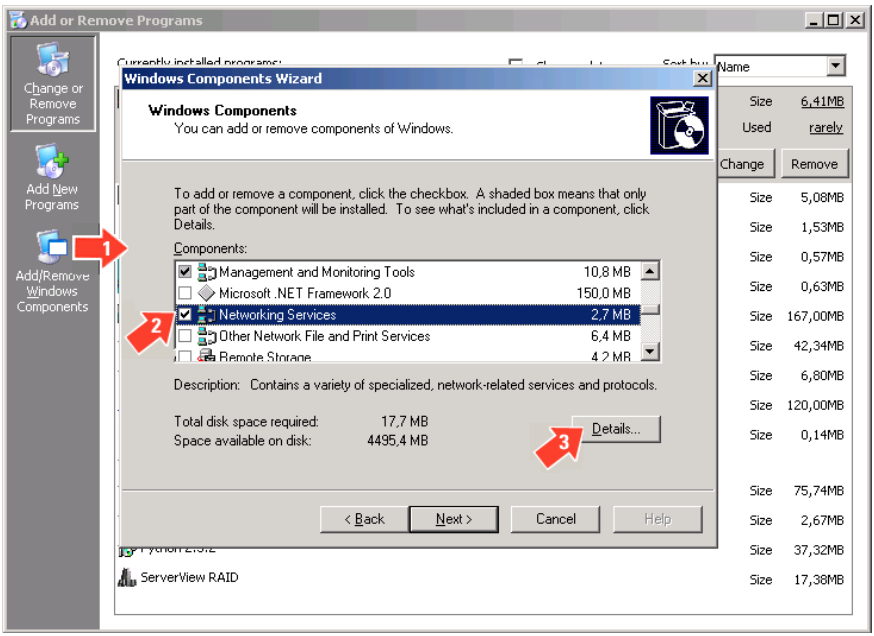

Add or Remove Programs
Change or Remove Programs
Add New Programs
Add/Remove Windows Components
Windows Components Wizard
Windows Components
You can add or remove components of Windows.
To add or remove a component, click the checkbox. A shaded box means that only part of the component will be installed. To see what's included in a component, click Details.
Components:
Management and Monitoring Tools 10,8 MB
Microsoft .NET Framework 2.0 150,0 MB
Networking Services 2,7 MB
Other Network File and Print Services 6,4 MB
Description: Contains a variety of specialized, network-related services and protocols.
Total disk space required: 17,7 MB
Space available on disk: 4495,4 MB
Details...
< Back
Next >
Cancel
Help
ServerView RAID
Name
Size 6,41MB
Used rarely
Change
Remove
1
2
3

Figure 12: Wizard for Windows components

1. Start the wizard for Windows components from the Windows control panel: Add/Remove Windows Components (1)
2. In the wizard for adding or removing Windows components, select the check box next to the **Network Services** component (2).
3. Click on the **Details** button (3).

4. In the list of available networking services, select the check box next to the **Dynamic Host Configuration Protocol (DHCP)** component.
5. Use the DHCP Manager to define a range of IP addresses. No special reservations, lease durations or server options are required.
6. Activate the new IP range.

4.2.2 Installing Installation Manager

The Installation Manager must be installed on a system with the Windows Server 2008 or Windows Server 2012 operating system. A user account with administrator rights is required.

1. Insert ServerView Suite DVD 1 into the DVD drive. The initial window opens.

If the application does not start automatically, run the *Setup.exe* file.

2. Select the **Install Installation Manager** option in the initial window.
3. Click **Start**. A settings dialog box opens.
4. In the **Installation Manager Functionality** group, select the following options:
   - **Classic + Remote Installation**: allows you to create and edit configuration files for the installation of operating systems on PRIMERGY servers. It also installs Remote Installation functionality, which allows you to configure and install a PRIMERGY system from the deployment server via PXE boot. The PXE Server component is also required for a remote installation. You should also select the Data packages for Remote Installation option to enable an unassisted deployment process.
   - **PXE Server**: must be installed on the deployment server if you want to perform a remote installation. Installation of the PXE server is then automatically initiated before the installation of Installation Manager. This option is set by default if a PXE server is not yet installed on the deployment server.
5. In the **Installation Manager add-on components**group, select the **Data packages for Remote Installation** option if it is not selected by default.

These data packages, which are required to optimize a remote installation, are installed automatically before installation of Installation Manager.

6. Click **OK** to start the installation.

You may be prompted to restart your server to complete the installation.

A restart may be necessary due to a number of important changes that have been made to the Windows registry that affect, for example, the startup of the PXE service.

- Before you restart the server, remove the ServerView Suite DVD 1 from the DVD drive.

4.2.2.1 Installing the PXE server

If you selected the **PXE Server** option in the component selection window, the PXE server is installed before Installation Manager.

1. Click on **OK** to confirm.

The first window of the installation wizard is displayed.

2. Click on **Next**.
3. Select the directory in which the PXE server is to be installed.
4. Click on **Next**.
5. Select the IP mode for the PXE service.

IPv6 requires a DHCPv6 server in the network. Local DHCPv6 cannont be used on Windows Server 2008 R2 or earlier versions.

6. Click on **Next**.
7. Select the LAN card that the PXE server is to use to access the network.
8. Click on **Next**.
9. Follow the steps below:
   - Select **Yes** only if a DHCP server is installed local to the PXE server on the same deployment server. In this case, Installation Manager automatically adds a server option (060: PXE client) to the DHCP server, which means that the local DHCP server can be used as a proxy DHCP (PXE redirection service).

   This step is also required if a DHCP service was installed afterwards local to the PXE service later.

- Select **No** if an external DHCP server is used.

Note the following:

- If incorrect details of the proxy DHCP configuration are entered, the PXE server will not be accessible to the PXE client (on the target system).
- Ensure that the LAN cable is connected before you install the PXE service.
- A LAN segment may contain only one DHCP server and one PXE server. Otherwise, problems may arise in the communication between the deployment server and the target system.
- Note that a DHCP server must be installed in the LAN segment for the remote installation. If a DHCP server is not available, terminate the installation of the PXE server. For multi segment deployment see also section "Configuring router for multi segment deployment" on page 92.
- If dynamic IP adress management by DHCP is used, only one DHCP server per LAN segment is allowed. If multiple DHCP servers are in use, only "reserved IP" address assignemnet is allowed.
- If multiple PXE servers are in use in one LAN segment, all PXE servers must be configured in "passive/defensive mode". The Server reacts on MAC addresses only listed in its current activated MAC address/Image assignment list.

10. Click on **Install** to start installing the PXE server.
11. Click on **Next**.

A window opens to inform you that the PXE server has been installed successfully.

12. Click on **Finish** to complete the installation.

4.2.2.2 Installing data packages for the remote installation

If you enabled the **Data packages for Remote Installation** option in the initial window when selecting components, the data required for the remote installation is copied to the hard disk.

The first dialog box of the installation wizard is displayed.

1. Click on **Next**.

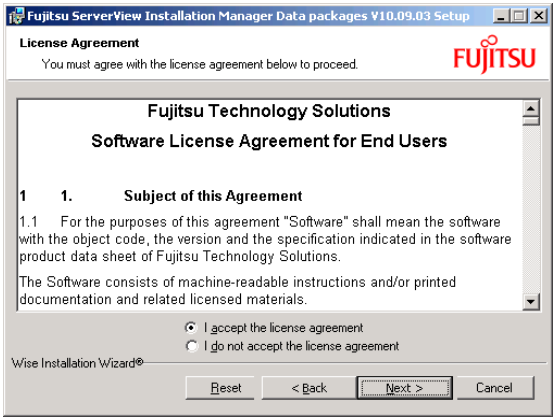

Fujitsu ServerView Installation Manager Data packages ¥10.09.03 Setup
License Agreement
You must agree with the license agreement below to proceed.
FUJITSU
Fujitsu Technology Solutions
Software License Agreement for End Users
1 1. Subject of this Agreement
1.1 For the purposes of this agreement "Software" shall mean the software with the object code, the version and the specification indicated in the software product data sheet of Fujitsu Technology Solutions.
The Software consists of machine-readable instructions and/or printed documentation and related licensed materials.
I accept the license agreement
I do not accept the license agreement
Wise Installation Wizard®
Reset
< Back
Next >
Cancel

Figure 13: License agreement

2. Accept the license agreement.
3. Click on **Next**.
   The **User Information** dialog box is displayed.
4. Enter your name and the name of your company.
5. Click on **Next**.
   The **Destination Folder** dialog box is displayed.
6. Select the destination folder to which you want to copy the data packages for the remote installation and assign a share name under which the installation data can be accessed in the network.
7. Click on **Next**.

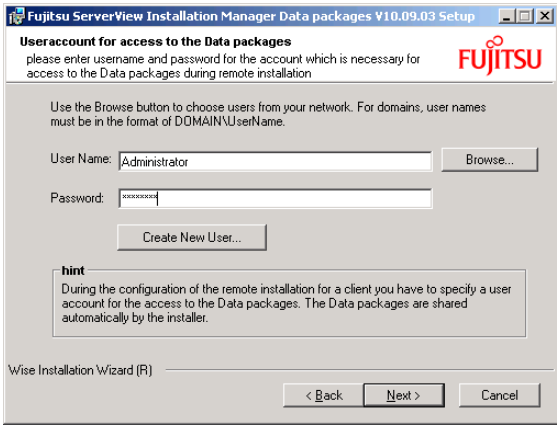

Fujitsu ServerView Installation Manager Data packages V10.09.03 Setup
Useraccount for access to the Data packages
please enter username and password for the account which is necessary for access to the Data packages during remote installation
FUJITSU
Use the Browse button to choose users from your network. For domains, user names must be in the format of DOMAIN\UserName.
User Name:
Administrator
Browse...
Password:
Create New User...
hint
During the configuration of the remote installation for a client you have to specify a user account for the access to the Data packages. The Data packages are shared automatically by the installer.
Wise Installation Wizard (R)
< Back
Next >
Cancel

Figure 14: Defining a user account for access by the PXE client

8. Select **Browse** to select a user account in your network, or create a new account that can be used by the PXE client to access the data packages for the remote installation.
   Domains should be entered in the form: `<domain name>\<user name>`

You have the option of entering the user account defined here when you define the target system at the start of the configuration session for the remote installation. In this case, Installation Manager automatically releases the installation data for access by the PXE client. Otherwise, you are prompted to enter a user name and password when installing the target system.

9. Click on **Next**.

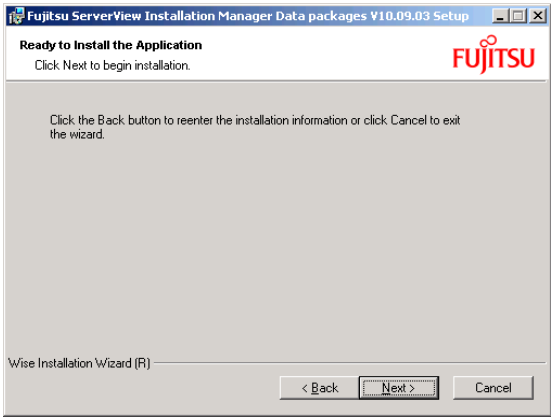

Fujitsu ServerView Installation Manager Data packages ¥10.09.03 Setup
Ready to Install the Application
Click Next to begin installation.
FUJITSU
Click the Back button to reenter the installation information or click Cancel to exit the wizard.
Wise Installation Wizard (R)
< Back
Next >
Cancel

Figure 15: Starting installation of the data packages

10. Click on **Next** to start installing the data packages.

This process may take several minutes because approximately 5 GB of data is copied during the installation.

A progress bar indicates how the installation is progressing.

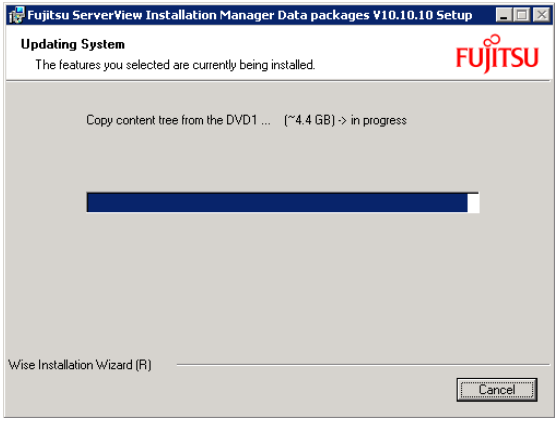

Fujitsu ServerView Installation Manager Data packages ¥10.10.10 Setup
Updating System
The features you selected are currently being installed.
FUJITSU
Copy content tree from the DVD1 ... (~4.4 GB) -> in progress
Wise Installation Wizard (R)
Cancel

Figure 16: Installation of data packages in progress - the progress bar

A window opens to inform you that installation has been successfully completed.

11. Click on **Finish**.

This starts the next installation step automatically.

4.2.2.3 Installing JBoss Application server

If you enabled the **Classic + Remote Installation** option in the initial window while selecting components, installation of the JBoss Application Server starts now.

The first dialog box of the installation wizard opens.

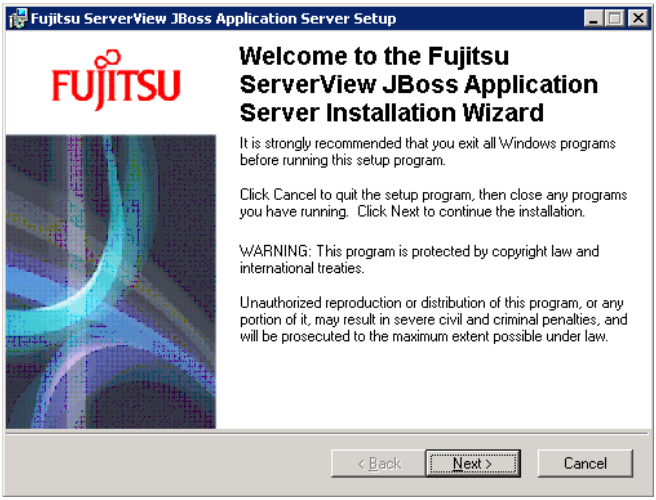

Fujitsu ServerView JBoss Application Server Setup
FUJITSU
Welcome to the Fujitsu ServerView JBoss Application Server Installation Wizard
It is strongly recommended that you exit all Windows programs before running this setup program.
Click Cancel to quit the setup program, then close any programs you have running. Click Next to continue the installation.
WARNING: This program is protected by copyright law and international treaties.
Unauthorized reproduction or distribution of this program, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under law.
< Back
Next >
Cancel

Figure 17: Install JBoss Applicaion Server dialog box

1. Click on **Next**. The **License Agreement** dialog box opens.

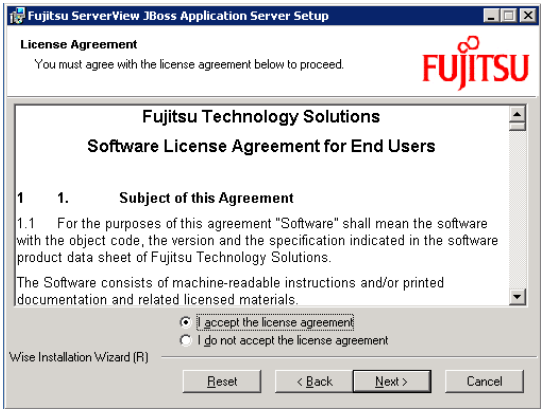

Fujitsu ServerView JBoss Application Server Setup
License Agreement
You must agree with the license agreement below to proceed.
FUJITSU
Fujitsu Technology Solutions
Software License Agreement for End Users
1 1. Subject of this Agreement
1.1 For the purposes of this agreement "Software" shall mean the software with the object code, the version and the specification indicated in the software product data sheet of Fujitsu Technology Solutions.
The Software consists of machine-readable instructions and/or printed documentation and related licensed materials.
I accept the license agreement
I do not accept the license agreement
Wise Installation Wizard (R)
Reset
< Back
Next >
Cancel

Figure 18: License agreement dialog box

2. Accept the license agreement.
3. Click on **Next**. The **Readme Information** dialog box opens.
4. Click on **Next**. The **Destination Folder** dialog box opens.
5. Select the directory in which the JBoss Application Server is to be installed.
6. Click Next. The **JBoss Service Logon Information** dialog box opens.

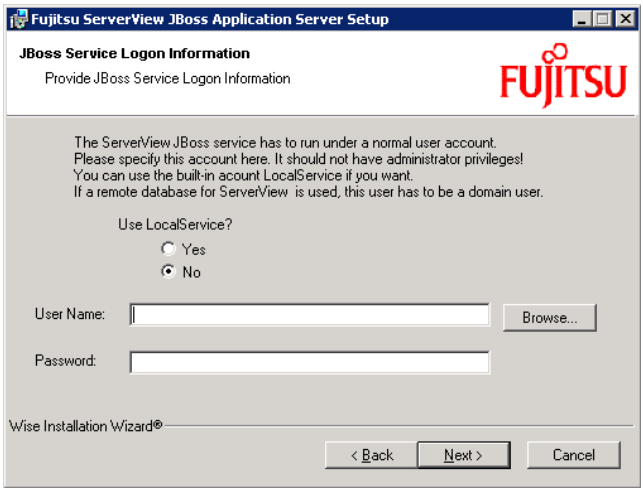

Fujitsu ServerView JBoss Application Server Setup
JBoss Service Logon Information
Provide JBoss Service Logon Information
FUJITSU
The ServerView JBoss service has to run under a normal user account.
Please specify this account here. It should not have administrator privileges!
You can use the built-in acount LocalService if you want.
If a remote database for ServerView is used, this user has to be a domain user.
Use LocalService?
Yes
No
User Name:
Browse...
Password:
Wise Installation Wizard®
< Back
Next >
Cancel

Figure 19: Specifying JBoss Service Logon Information

7. Specify a user account for running the JBoss service or whether you want to use the built-in account **LocalService**.
8. Click on **Next**. The **Select Directory Server** dialog box opens.

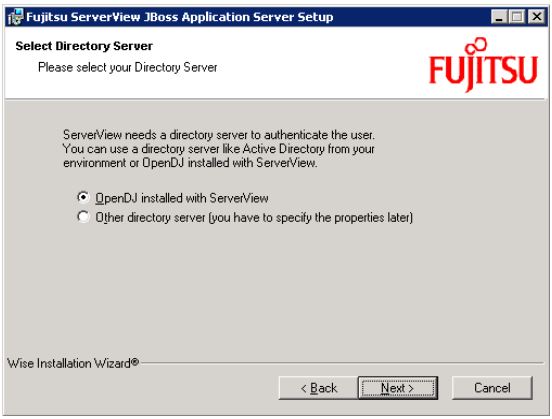

Fujitsu ServerView JBoss Application Server Setup
Select Directory Server
Please select your Directory Server
FUJITSU
ServerView needs a directory server to authenticate the user.
You can use a directory server like Active Directory from your environment or OpenDJ installed with ServerView.
OpenDJ installed with ServerView
Other directory server (you have to specify the properties later)
Wise Installation Wizard®
< Back
Next >
Cancel

Figure 20: Select Directory Server dialog box

9. Select the type of directory server you want to use for Installation Manager:
   - a new installation of OpenDS provided with Installation Manager
   - a directory server already used in your network, e.g., MS Active Directory
10. Click Next. The **Directory Service Settings** dialog box opens.

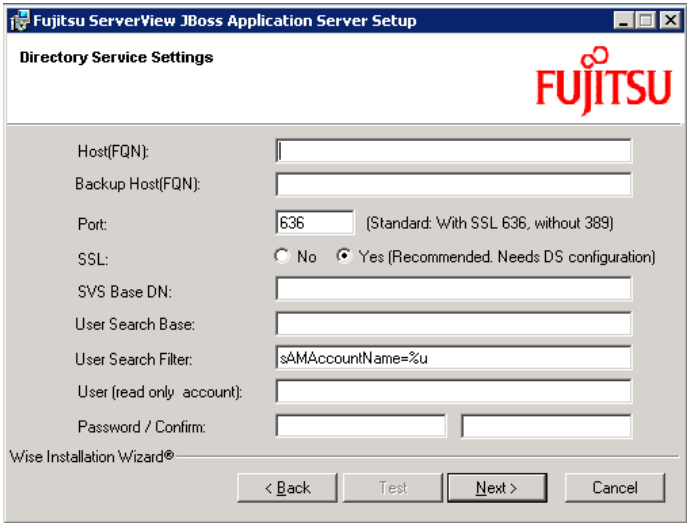


Figure 21: Directory Service Settings dialog box

11. Enter the name of the directory server as fully qualified domain name. If no directory server is installed, the default options for the OpenDS directory service are displayed.
12. If the directory service is already installed, the following options have to be filled in, to ensure that Installation Manager can use the directory service for single sign on and role based access control.:
    - **Port**: communication port, default 1474
    - **SSL**: secure communication, default **Yes**
    - **Base DN**: distinguished name in LDAP notation
    - **User Search Base**: LDAP user search base (location where all LDAP users exist.) in LDAP notation
    - **User**: user account in LDAP notation
    - **Password**: password for the user account

13. Click **Next**. The **Administrative User Password** dialog box opens.

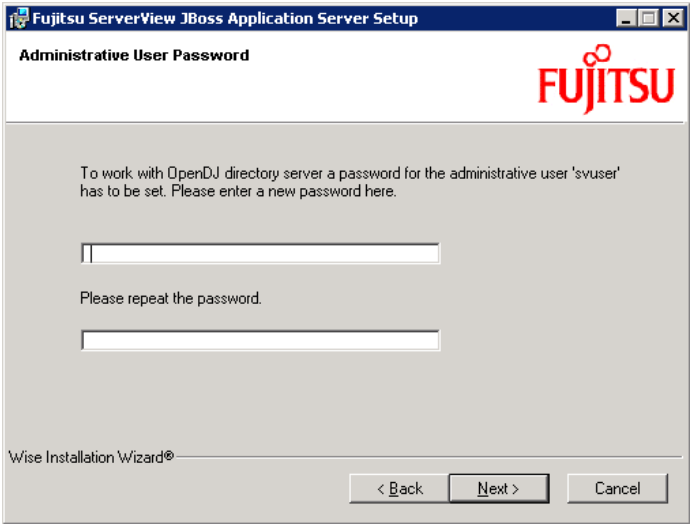

Fujitsu ServerView JBoss Application Server Setup
Administrative User Password
FUJITSU
To work with OpenDJ directory server a password for the administrative user 'svuser' has to be set. Please enter a new password here.
Please repeat the password.
Wise Installation Wizard®
< Back
Next >
Cancel

Figure 22: Administrative User Password dialog box

14. Enter the password for the administrative user **svuser** and confirm the password by entering it again.
15. Click on **Next**. The **Computer Details** dialog box opens.

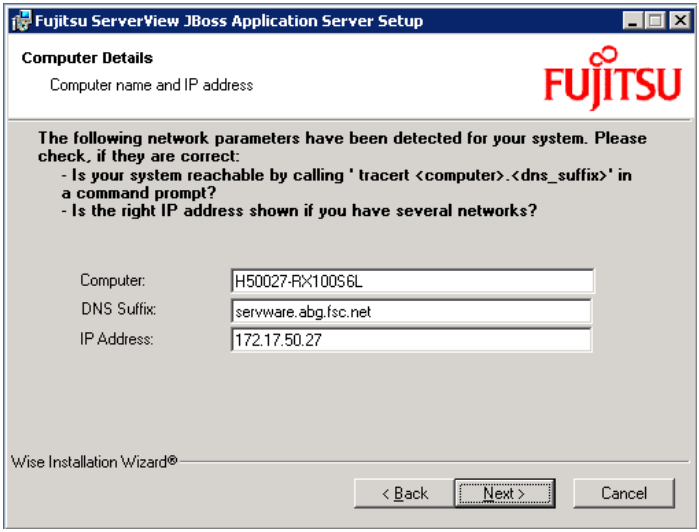

Fujitsu ServerView JBoss Application Server Setup
Computer Details
Computer name and IP address
FUJITSU
The following network parameters have been detected for your system. Please check, if they are correct:
- Is your system reachable by calling ' tracert <computer>.<dns_suffix>' in a command prompt?
- Is the right IP address shown if you have several networks?
Computer:
H50027-RX100S6L
DNS Suffix:
servware.abg.fsc.net
IP Address:
172.17.50.27
Wise Installation Wizard®
< Back
Next >
Cancel

Figure 23: Computer Details dialog box

16. Check the network parameters that were automatically detected for your system.
17. Click on **Next**. The **Ready to Install the Application** dialog box opens.

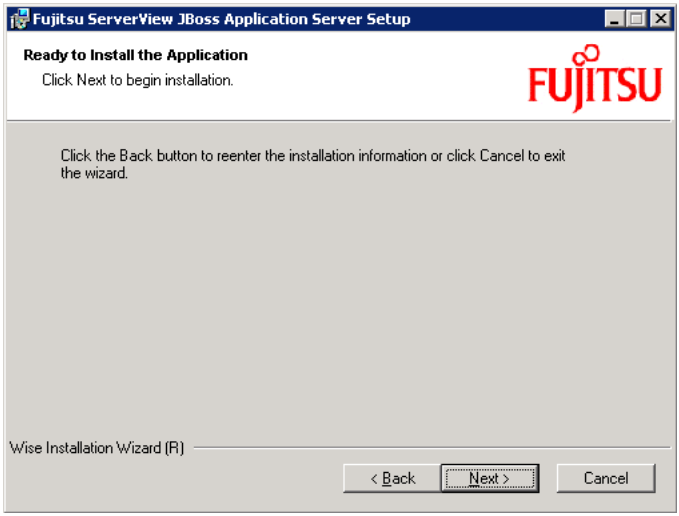

Fujitsu ServerView JBoss Application Server Setup
Ready to Install the Application
Click Next to begin installation.
FUJITSU
Click the Back button to reenter the installation information or click Cancel to exit the wizard.
Wise Installation Wizard (R)
< Back
Next >
Cancel

Figure 24: Starting installation of the JBoss Application Service

18. Click on **Next** to start the installation.

The installation wizard indicates how the installation is progressing ...

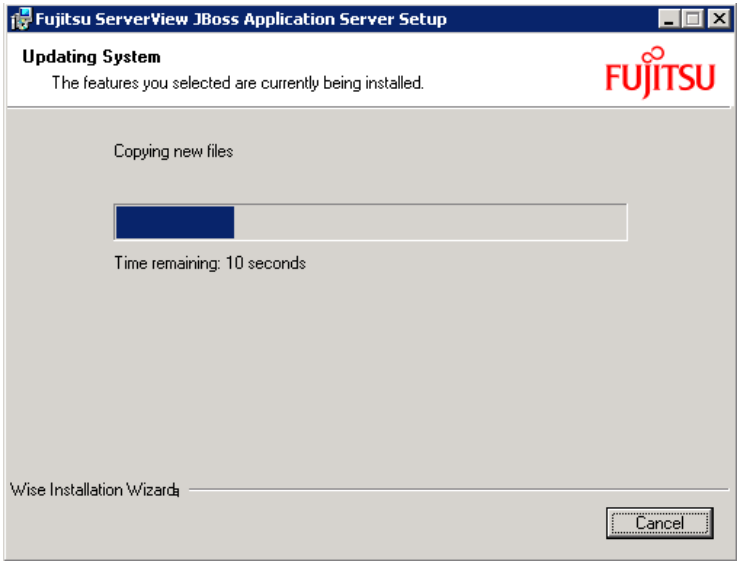


Figure 25: Completing the installation

... and informs you when the installation has been successfully completed.

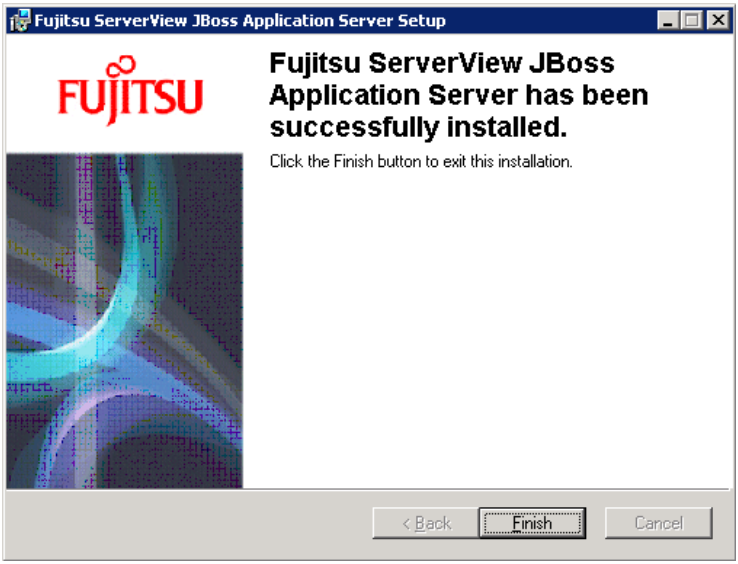

Fujitsu ServerView JBoss Application Server Setup
FUJITSU
Fujitsu ServerView JBoss Application Server has been successfully installed.
Click the Finish button to exit this installation.
< Back
Finish
Cancel

Figure 26: Completing the installation

19. Click on **Finish** to complete the installation.

This starts the next installation step automatically.

4.2.2.4 Installing Installation Manager

If you enabled the **Classic + Remote Installation** option in the initial window while selecting components, installation of the Installation Manager starts now.

The first dialog box of the installation wizard opens.

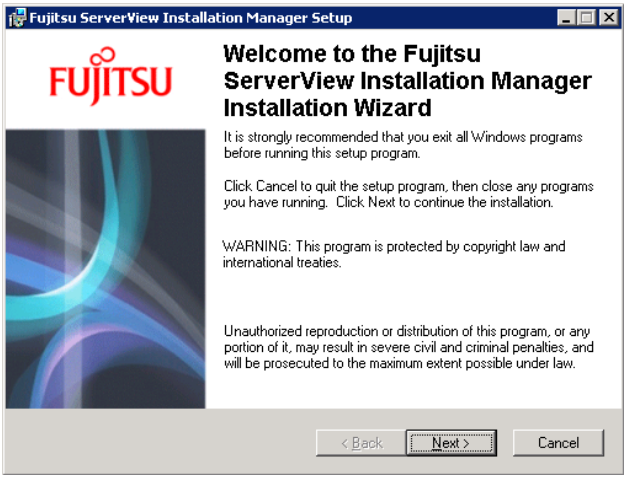

Fujitsu ServerView Installation Manager Setup
FUJITSU
Welcome to the Fujitsu ServerView Installation Manager Installation Wizard
It is strongly recommended that you exit all Windows programs before running this setup program.
Click Cancel to quit the setup program, then close any programs you have running. Click Next to continue the installation.
WARNING: This program is protected by copyright law and international treaties.
Unauthorized reproduction or distribution of this program, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under law.
< Back
Next >
Cancel

Figure 27: Install Installation Manager dialog box

1. Click on **Next**. The **License Agreement** dialog box opens.

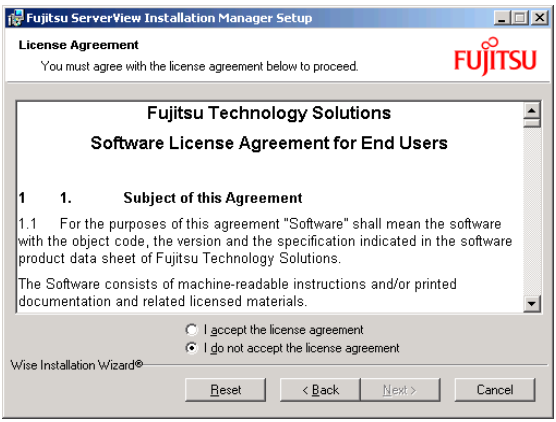

Fujitsu ServerView Installation Manager Setup
License Agreement
You must agree with the license agreement below to proceed.
FUJITSU
Fujitsu Technology Solutions
Software License Agreement for End Users
1 1. Subject of this Agreement
1.1 For the purposes of this agreement "Software" shall mean the software with the object code, the version and the specification indicated in the software product data sheet of Fujitsu Technology Solutions.
The Software consists of machine-readable instructions and/or printed documentation and related licensed materials.
I accept the license agreement
I do not accept the license agreement
Wise Installation Wizard®
Reset
< Back
Next >
Cancel

Figure 28: License agreement dialog box

2. Accept the license agreement.
3. Click on **Next**. The **User Information** dialog box opens.
4. Enter your name and the name of your company.
5. Click on **Next**. The **Destination Folder** dialog box opens.
6. Select the directory in which Installation Manager is to be installed.

7. Click on **Next**. The **Ready to Install the Application** dialog box opens.

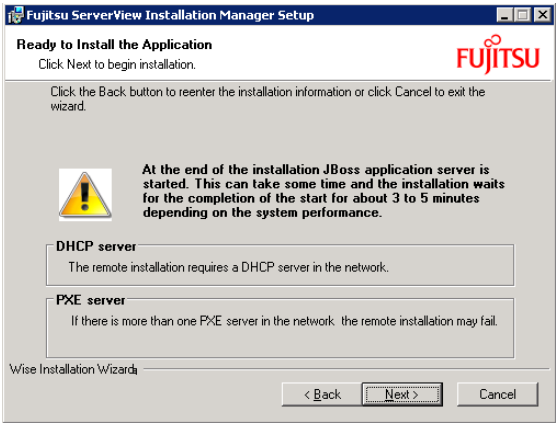

Fujitsu ServerView Installation Manager Setup
Ready to Install the Application
Click Next to begin installation.
FUJITSU
Click the Back button to reenter the installation information or click Cancel to exit the wizard.
At the end of the installation JBoss application server is started. This can take some time and the installation waits for the completion of the start for about 3 to 5 minutes depending on the system performance.
DHCP server
The remote installation requires a DHCP server in the network.
PXE server
If there is more than one PXE server in the network the remote installation may fail.
Wise Installation Wizard
< Back
Next >
Cancel

Figure 29: Starting Installation Manager

8. Click on **Next** to start the installation.

The installation wizard indicates how the installation is progressing ...

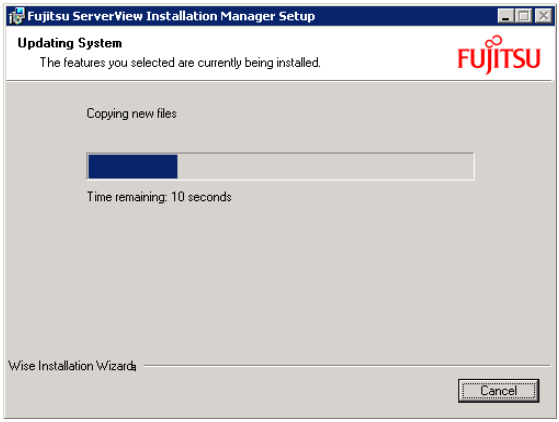


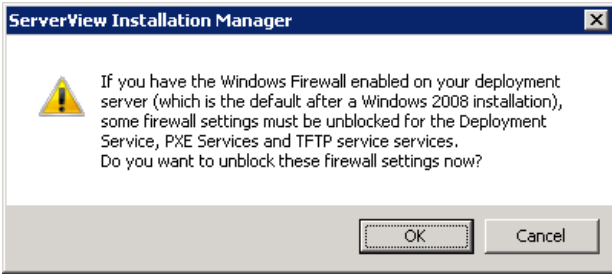
Figure 30: Completing the installation

... and informs you when the installation has been successfully completed.

Figure 31: Completing the installation

9. Click on **Finish** to complete the installation.

A message box opens advising you to unblock some settings of the Windows firewall (if enabled). This is required for the Deployment Service, the PXE Services, and the TFTP Services.


ServerView Installation Manager
If you have the Windows Firewall enabled on your deployment server (which is the default after a Windows 2008 installation), some firewall settings must be unblocked for the Deployment Service, PXE Services and TFTP service services.
Do you want to unblock these firewall settings now?
OK
Cancel

10. Click on **OK** to unblock the respective firewall settings.

Installation Manager is now installed on the deployment server. The options for starting Installation Manager are described in section "Starting Installation Manager on the deployment server" on page 96.

At the end of the installation the JBoss application server is started. The installation waits for the completion of the start about three to five minutes depending on the system performance.

4.2.3 Extensions for the remote installation of Linux and VMware ESX/ESXi systems

Before you can perform a remote installation of Linux or VMware ESX on the target system, the installation sources must be copied as follows:

- In the case of Linux / VMware ESX, from the corresponding Linux / VMware ESX installation media to an FTP/NFS or HTTP server. You can use any FTP, NFS or HTTP server that is accessible to the target system and has sufficient bandwidth. The Installation Manager's bootstrap loader downloads the required installation packages from the FTP, NFS or HTTP server.
- In the case of VMware ESXi, from the VMware ESXi installation medium to a network drive of your network that is accessible to the target system. The Installation Manager's bootstrap loader downloads the required installation packages from this network drive.

Setting up an NFS, HTTP or FTP server

In the case of NFS, the server used must be a Linux system.

To set up an FTP server on a Windows computer, you must install the Internet Information Server (IIS) from Microsoft or similar software from another vendor.

For more information, refer to the documentation for the software in question. The deployment server on which Installation Manager is running is also suitable for use as an FTP server.

To set up an NFS, FTP or HTTP server on a Linux system, refer to the system documentation.

Setting up a RedHat Linux installation source
The following RedHat Linux versions are supported:

- RedHat Enterprise Linux 5 "i386"
  the last two updates
- RedHat Enterprise Linux 5 "x86_64"
  the last two updates
- RedHat Enterprise Linux 6 "i386"
  the two last updates
- RedHat Enterprise Linux 6 "x86_64"
  the two last updates
- RedHat Enterprise Linux 7 "x86_64"
  the two last updates

In order to make the installation data available on the NFS, FTP or HTTP server, you must copy the required files from the installation media into the relevant NFS, FTP or HTTP file tree.

Follow the steps below:

1. First, create a subdirectory with a short, unique name (e.g RedHat) as a basis for the installation sources of the relevant RedHat system.
2. Then copy the **RedHat** directories (including all of their subdirectories) from all installation media of the relevant RedHat distribution into this new subdirectory.

When the copy process is complete, you should have a RedHat directory containing the contents of all RedHat directories on the media.

3. Enter the basic subdirectory you have just created in the installation wizard for the relevant RedHat Linux system together with the address of the NFS or FTP server.

SuSE Linux Enterprise 11 installation source
In order to make the installation data available on the NFS, FTP or HTTP server, you must copy the required files from the installation DVD to the relevant NFS, FTP or HTTP file tree.

The following versions are supported:

- SuSE Linux Enterprise Server 11 Edition i386 and x86_64 (including Service Pack 1)

To setup the installation source:

1. Create a subdirectory called **SLES11**.
2. Copy the contents of the DVD, including all subdirectories, unchanged into this new directory (a 1:1 copy).

Setting up a VMware ESXi installation source
In order to make the installation data available on a network drive within your network, you must copy the required files from the installation DVD to the relevant directory of this drive.

The following versions are supported:

- VMware ESXi 5.x

To setup the installation source:

1. Create a subdirectory called **VMWARE**.
2. Copy the contents of the DVD, including all subdirectories, unchanged into this new directory (a 1:1 copy).

4.2.4 Verifying the services (PXE, TFTP, DHCP)

Remote installation via deployment server requires the following:

- PXE (Preboot eXecution Environment) server and TFTP server are installed and have been started on the deployment server.
- If no DHCP (Dynamic Host Configuration Protocol) service is available in the LAN segment of the deployment server: A DHCP server needs to be running on the deployment server.
- For PXE boot a DHCP (Dynamic Host Configuration Protocol) service is required in the LAN segment of the target server: If the target server and deployment server are in the same segment, it could also be installed on the deployment server itself or elsewhere in the current IP broadcast domain.

For multi segment deployment see also section "Configuring router for multi segment deployment" on page 92.

Verifying the PXE server and the TFTP server

To verify that the PXE server and the TFTP server are installed and have been started on the deployment server, proceed as follows:

1. Click **Start - Administrative Tools - Services** on the Deployment Server.
2. Ensure that the PXE service and the TFTP service are installed and started.

Verifying the "DHCP Service" service

To find out if a centralized DHCP service is available in the LAN segment of the target server, contact your LAN administrator.

If no centralized DHCP service is available, verify that a DHCP service is running on the deployment server.

Proceed as follows:

1. Select **Start - Administrative Tools - DHCP** on the deployment server.

The DHCP administration utility starts.

2. In the tree view of the DHCP administration utility, click on **Server Options**.

The **Server Options** dialog box opens.

3. Make sure that the **060 ClassID** option is selected in the **Server Properties** dialog box.

4.2.5 Configuring TFTP

TFTP (Trivial File Transfer Protocol) offers a very basic subset of the File Transfer Protocol (FTP) functionality. In particular, TFTP provides no authentication.

PXE-based remote installation uses the TFTP service to transfer the boot image to the target system. For this purpose, the **Guest** account must be granted the appropriate access permissions for the **tftp** folder:

- *Traverse Folder / Execute File* permission
- *List Folder / Read Data* permission
- Comprehensive "*read*" permissions.

To achieve this, proceed as follows:

1. Start Windows Explorer and navigate to the tftp folder

(default: *C:\Program files\Fujitsu\ServerView Suite\DeploymentService\tftp*).

2. Right-click the **tftp** folder icon and select **Properties**.
3. In the **Properties** dialog box, select the **Security** tab.
4. In the **Security** tab, select the **Guest** account.
5. In the **Permissions for Guest** list, select the **Read & Execute** option.
6. Click on **OK**.

4.2.6 Configuring router for multi segment deployment

If deployment server and target server have to be in different segments, the following settings and hints are advisable (i.e. deployment-server and target server resides in different LAN-segments or VLANs).

Bypass deployment communication inside router configuration on the following protocols/ports:

- In direction from "deployment server" to "target server" (destination)

Destination Ports:

4973 UDP (Deployment Service's proprietary protocol)

4974 - 4989 UDP (Restore)

- In direction from "target server" to "deployment server" (destination)

Destination Ports:

67 UDP (PXE broadcast)

4011 UDP (PXE broadcast)

69 UDP (PXE/TFTP)

4972 UDP (Deployment Service's proprietary protocol)

4974 - 4989 UDP (Backup)

4974 - 4989 TCP (Backup)

- In both directions:

9213 UDP/TCP (Installation Manager installation protocol)

4971 (If "ServerView Deployment Manager" and "ServerView Deployment Service" are located in different segments)

- "DHCP proxy" router function must be enabled

Caution:

Especially if you are using the "ARP proxy" router function, the assigned IP address provided at PXE boot for a target server installation has to be constant over the whole deployment session. This could be achieved by a long lease time (>2 hours) or reserved IP configuration in the DHCP server., provided the router settings above remote installation are supported in general for multi segment deployment by ServerView Installation Manager / ServerView Deployment Manager:

- for all Linux (SuSE- or Red-Hat, x32 + x64) & Windows x32 platforms
- for multi segment remote installation of Win2K8 x64 (& R2) server since SVIM V10.10.09

(Hotfix available for ServerView Installation Manager V10.10.05 - V10.10.08).

4.3 Preparing the remote resource server

Optionally, you may use a remote server for storing and sharing the resources that are required for the installation process.

In order to enable the target system to access the installation resources on the remote resource server, proceed as follows:

1. Prepare the required installation resources: operating system installation disks, optional disks (e.g. Service Pack CD-ROMs) etc.
2. Log in to the remote resource server using a user account with administrator rights.
3. Create a folder (e.g. *C:\SHARE_Install_Data*) where you will provide the required installation resources.

   You can either provide all resources in the same folder or distribute the individual resources to separate folders.
4. Share the folder(s) on the network.
5. Grant the *Read* permission on the shared folder(s) to a user account on the target server.
6. Copy the prepared installation resources to the shared folder(s).
7. Verify that the user account on the target server can read the installation resources from the folders via network access.

4.4 Preparing the target system for the remote installation

For a remote installation of the target system, the Installation Manager client instance that was booted on the target system via PXE contacts the deployment server. The target system must boot from a LAN card to enable the PXE boot.

Setting the boot sequence for booting from the network card

Only onboard LAN devices or specially prepared (flashed) Intel LAN mezzanine cards support the network boot (PXE boot).

Use one of the following two procedures to define the boot sequence on the target system:

- Access the target system BIOS and set the **boot sequence** to the **Boot from a network device** setting.

For more information, refer to the BIOS Setup manual on your ServerView Suite DVD.

- When you are configuring the installation process in the **Select the Target System** configuration step (see section "Select the target system (Remote Installation and Remote System Configuration Only)" on page 105), you can specify that PXE boot mode is to be activated automatically as part of the installation process if the target system has a remote management component (BMC/iRMC/iRMC S2/S3/S4/management blade).

Starting the PXE boot of the target system
Use one of the following two procedures to start the PXE boot of the target system:

- Start the target system "*manually*" after you have defined the boot sequence accordingly.
- If the target system has a remote management component (BMC/iRMC/iRMC S2/S3/S4/management blade):

Use the automatic option provided by Installation Manager after it has been configured accordingly (see above).

4.5 Starting Installation Manager on the deployment server

You can start Installation Manager locally or remotely on the deployment server. In both cases, you require a web browser, which, in the case of a local start, is called automatically with the correct web address.

4.5.1 Starting Installation Manager locally under Windows

Follow the steps below:

1. Select *Start – Programs – Fujitsu ServerView Suite – Installation Manager - start Installation Manager*.

You are then prompted to enter a user name and password. The default user account to access the user interface is:

User: Administrator

Password: admin

For details on how to modify the user account settings refer to the "ServerView Suite: User Management in ServerView" manual.

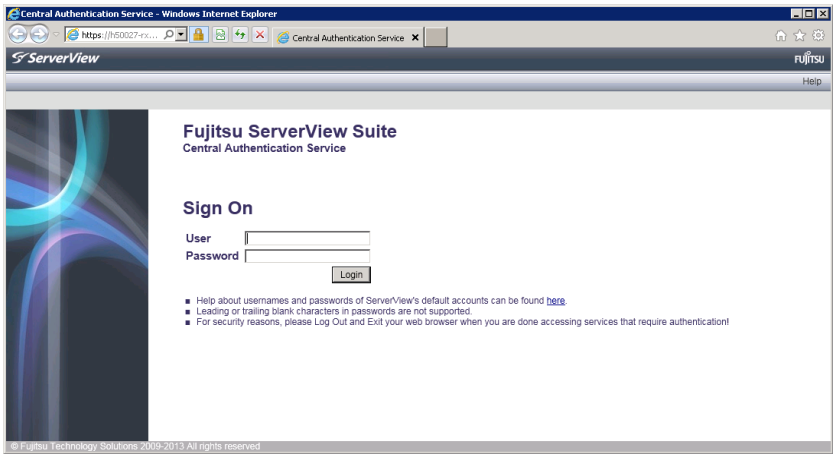

Central Authentication Service - Windows Internet Explorer
Central Authentication Service
ServerView
FUJITSU
Help
Fujitsu ServerView Suite
Central Authentication Service
Sign On
User
Password
Login
Help about usernames and passwords of ServerView's default accounts can be found here.
Leading or trailing blank characters in passwords are not supported.
For security reasons, please Log Out and Exit your web browser when you are done accessing services that require authentication!
© Fujitsu Technology Solutions 2009-2013 All rights reserved

Figure 32: Installation Manager logon

2. Enter your user name and password and click on **OK** to confirm.

The Installation Manager welcome screen is displayed.

4.5.2 Starting Installation Manager remotely via web browser

Follow the steps below:

1. Start a supported web browser (Internet Explorer or Firefox).
2. Enter the following address:

http://<IP address of the deployment server>:3169/ServerStart/ImStartBase.html

You are then prompted to enter a user name and password. The default user account to access the user interface is:

User: Administrator

Password: admin

For details on how to modify the user account settings refer to the "ServerView Suite: User Management in ServerView" manual.

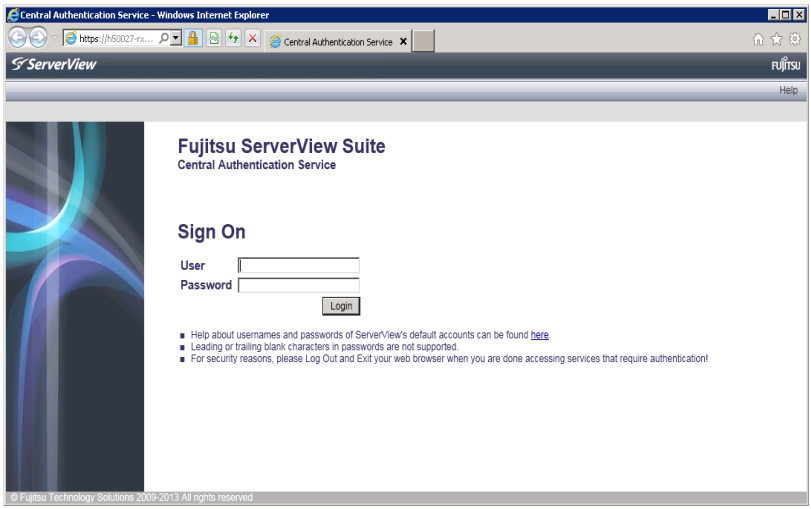

Central Authentication Service - Windows Internet Explorer
Central Authentication Service
ServerView
FUJITSU
Help
Fujitsu ServerView Suite
Central Authentication Service
Sign On
User
Password
Login
Help about usernames and passwords of ServerView's default accounts can be found here.
Leading or trailing blank characters in passwords are not supported.
For security reasons, please Log Out and Exit your web browser when you are done accessing services that require authentication!
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Figure 33: Installation Manager logon

3. Enter your user name and password and click on **OK** to confirm.

The Installation Manager welcome screen is displayed.

4.5.3 Installation Manager Welcome Screen

The Installation Manager welcome screen is structured as follows:

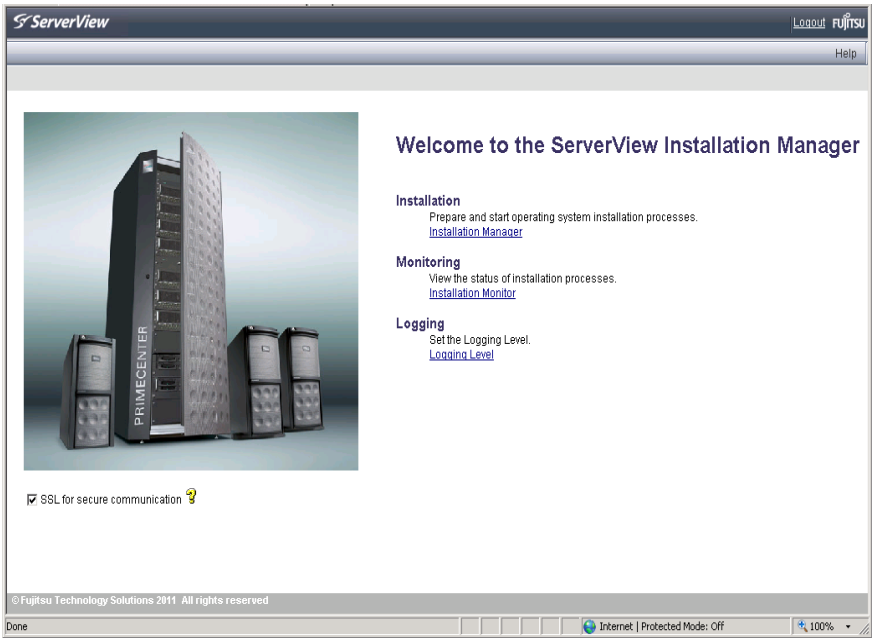


Figure 34: Installation Manager welcome screen

You can select which Installation Management function you want to use in this welcome screen:

Installation

The **Installation Manager** link starts the **Installation Manager**.

This function allows you to install a computer.

Monitoring

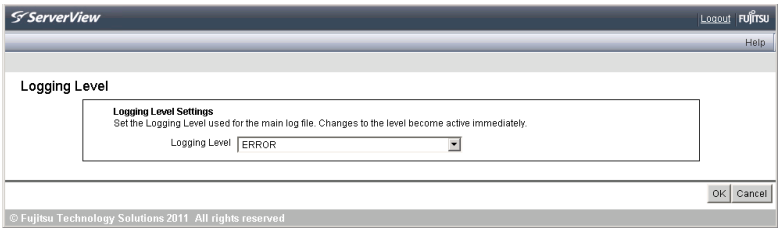
The **Installation Monitor** link starts the **Remote Installation Monitor**.

This function allows you to monitor current installations.

Logging

The **Logging** link opens the **Logging Level** dialog.

This function allows you to set the logging level used for the main log file



Logging Level

Here you can select the logging level for the main log file.

OK

Activates the selected logging level and closes the dialog.

SSL for secure communication

Enables the SSL protocol for communication between Installation Manager and the deployment server. (Address: *https://<IP>...*).

SSL must be configured on the deployment server for this purpose.

You can select this option when starting Installation Manager either locally or remotely.

4.5.4 Graphical user interface (GUI) of the Installation Manager

The following initial screen of the Installation Manager GUI is displayed after you click on the Installation Manager link in the Installation Manager welcome

screen:

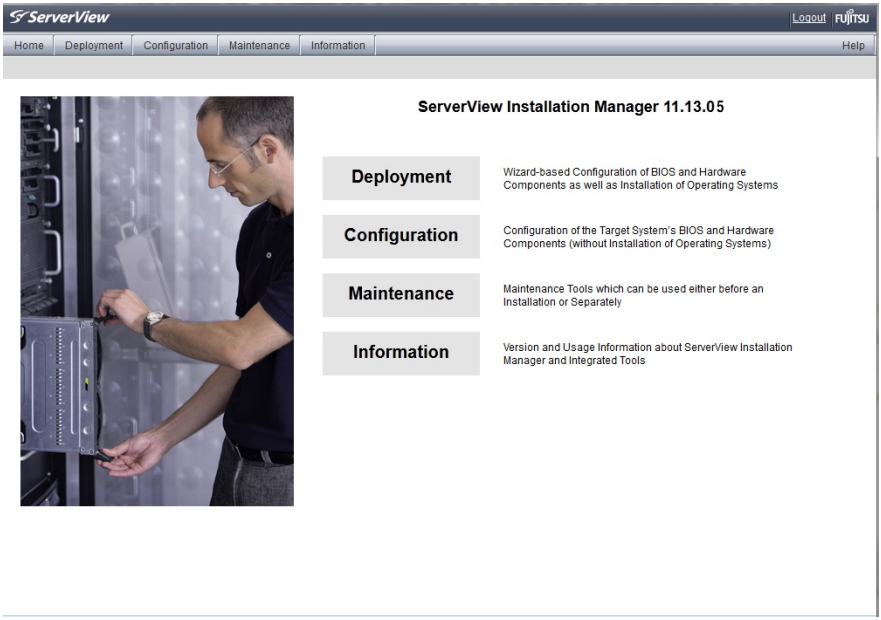


Figure 35: Installation Manager GUI - initial screen

The Installation Manager GUI comprises the following areas:

- Menu bar
- Display area

Menu bar
You can execute the following functions from the menu bar:

Home
Takes you back to the initial window of the Installation Manager GUI.

Deployment
Starts the remote deployment

Configuration
Configures BIOS, hardware, and RAID configuration of the target system without installing an operating system.

Maintenance
Option of booting any required boot images using the PXE infrastructure of Installation Manager.

Information
Provides information about PRIMERGY servers and installation.

Help
Starts the online help.

Display area
The display area displays the dialog step associated with the currently selected function.

In the case of the initial page of the Installation Manager GUI, the display area comprises the following elements:

- The Installation Manager version is displayed at the top of the screen.
- The system data of the PRIMERGY server is displayed under **Server Information**.
- The **Deployment, Configuration, Maintenance** and **Information** links allow you to start the same functions that can be started from the corresponding function buttons in the menu bar (see "Menu bar" above).

4.6 Starting remote deployment / remote system configuration

Proceed as follows:

- To start the remote deployment, click on the **Deployment** button or click on **Deployment** in the menu bar on the start page of the Installation Manager GUI. The window for defining the target system is displayed.
- To start the remote system configuration, click on the **Configuration** button or click on **Configuration** in the menu bar on the start page of the Installation Manager GUI. The window for defining the target system is displayed.

The only mode available for remote deployment is **Customized**. The screen for selecting a deployment mode is therefore skipped in this case.

The dialog boxes shown in this chapter are identical to those that appear when you select **Customized** as your deployment mode. For more information about **Customized** mode, see section "Typical or Customized deployment" on page 20.

4.6.1 Select the target system (Remote Installation and Remote System Configuration Only)

In this dialog box, you configure the settings required for a remote installation of the target system.

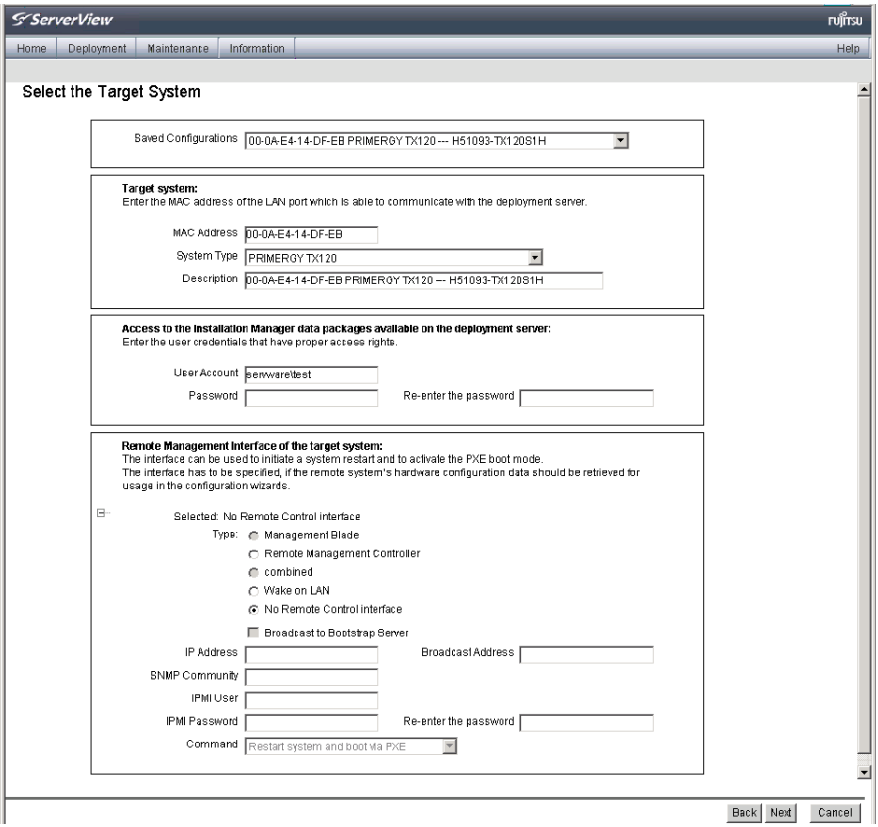


Figure 36: Target system definition

Saved Configurations

Here you can select the data for a target system that is already defined.

Target system

The data of the target system selected under **Saved Configurations** is displayed here. If you have not selected a target system under **Saved Configurations** or if you want to install a system that is not yet listed, this is where you define the system for which the following configuration session is to apply.

MAC address

MAC address of the LAN port (network card) on the target system that is to be used for the installation.

The required MAC address format is "nn-nn-nn-nn-nn-nn". However, Installation Manager also accepts the formats "nnnnnnnnnnnn" and "nn:nn:nn:nn:nn:nn", which will be converted automatically.

PRIMERGY System Type

PRIMERGY type of the target system

Description

This input field is automatically filled with the values from the MAC address and **PRIMERGY System Type** fields. You can change this default value if required.

Access to the Installation Manager data packages available on the deployment server

Authorizes access to the deployment server for the Installation Manager client instance on the target system.

User Account

User account with access rights to the deployment server. This user account was set up during installation of Installation Manager on the deployment server.

Password/Re-enter the password

Password for this user account.

Remote Management Interface of the target system

If the target system has a remote management interface (BMC, iRMC, iRMC S2/S3/S4 or management blade), you can specify here that PXE mode is to be activated automatically on the target system as part of the deployment process (either with or without a subsequent restart of the target system).

Select Remote Management Controller

The remote management interface must be specified if the target system's hardware configuration data shall be retrieved automatically for usage in the configuration wizards.

Type

Indicates the type of remote management interface:

Management Blade
for PRIMERGY blade servers.

Remote Management Controller
for PRIMERGY servers with BMC, iRMC or iRMC S2/S3/S4.

MMB Remote Manager
for blade servers BX600 (withMMBS3) and BX900. The management blade of the blade server is accessed via telnet. Read-write access via SNMP is not necessary.

combined
for Management Blades and Remote Management Controllers

Wake on LAN
for target systems with a WoL-enabled network card (NIC), which is powered by the standby power supply of the target system even if the target system is switched off.

No Remote Control interface
for target systems that do not have a management interface. In this case, the input fields described below are not displayed.

Broadcast to Bootstrap Server

If you select this option, the magic packet is sent to UDP port 67 (Boot-strap Protocol (BOOTP) Server); otherwise, it is sent to UDP port 9. This option is

required if you specify the Unicast address of a BOOTP/DHCP server under Broadcast Address. Furthermore, you should select this option if it is not guaranteed that all gateways included in a subnet broad cast are configured for "subnet broadcasting".

Broadcast Address
IP address of the target system, i.e, the broadcast address or unicast address of the target system to which the deployment server is to send the magic packet.

IP address
IP address of the BMC, iRMC, iRMC S2/S3/S4 or management blade.

IPMI User (for Remote Management Controller only)
Local user account on the BMC, iRMC or iRMC S2/S3/S4.

IPMI Password (for Remote Management Controller only)
Password for the local user account on the BMC, iRMC or iRMC S2/S3/S4.

SMASH User (for MMB Remote Manager only)
Local user account on the MMB Remote Manager.

SMASH Password (for MMB Remote Manager only)
Password for the local user account on the MMB Remote Manager.

SNMP Community (for Management Blade only)
SNMP user group with the corresponding rights on the management blade.

Command
Select the required action:

Disabled
No change to the PXE settings on the target system and no system restart.

Set boot mode to PXE (no restart)
Automatically enables PXE boot mode without a restart of the target system.

Restart system and boot via PXE
Automatically enables PXE boot mode with a restart of the target system.

The restart of the target system will be executed as soon as you start the deployment process at the end of the Installation Manager session.

- Click on **Next**.

Depending on whether **Deployment** or **Configuration** has been started via the Installation Manager initial screen, the following window is displayed:

- **Deployment**: Iinitial window for configuring an automatic installation processor (see "Configure Your Unattended Operating System Installation" on page 110)
- **Configure**: Initial window for configuring the server's BIOS and hardware is displayed (see "Enter Parameters for the Server's BIOS and Hardware Configuration" on page 116.

4.6.2 Configure Your Unattended Operating System Installation

In this dialog box, you specify which operating system is to be installed on your target system.

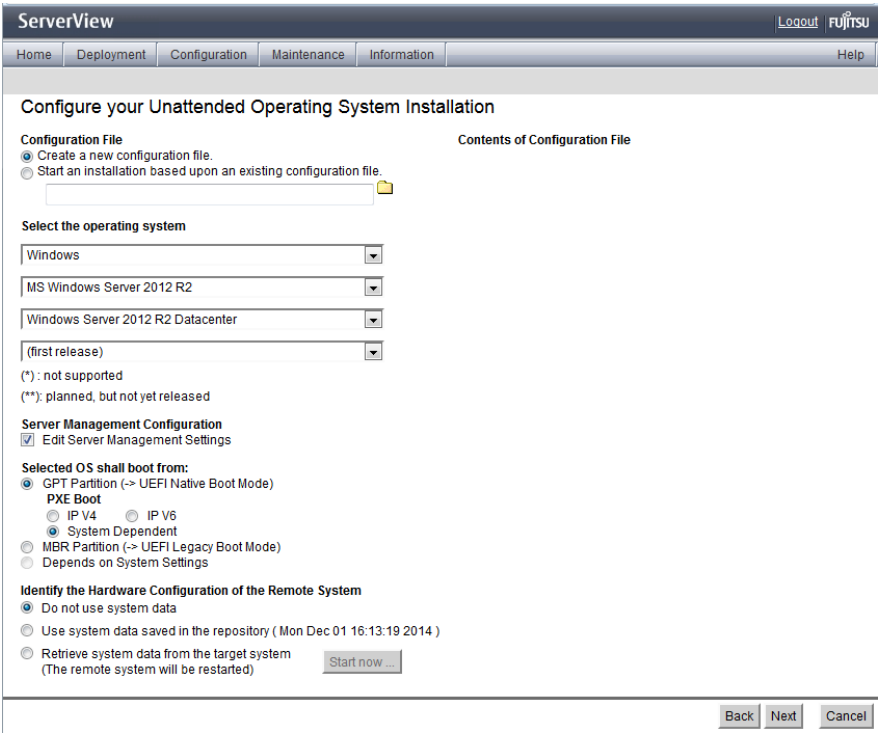


Figure 37: Initial window: Configure your Unattended Operating System Installation

Configuration file

Here you specify whether you want to create a new configuration file or use the values from an existing one.

Create a new configuration file

Creates a new configuration file.

Start an installation based upon an existing configuration file

Here you can select a configuration file. The interpreted contents of this file are then displayed on the right of the window under **Contents of Configuration File**.

Click the folder icon to select an existing configuration file. A dialog box opens that allows you to select an appropriate configuration file from the **configfiles** directory of the Installation Manager repository (remote installation) or from a local backup medium (local installation, customized mode).

Installation Manager provides the configuration file's content in the current session as default values for the configuration. You can use these values as required and save them in the same configuration file or a new configuration file at the end of the session.

Contents of Configuration File

If you selected an existing configuration file, an extract of its content is displayed here.

Select the operating system

Here you specify which operating system you want to install in which variant and which version on the target system.

Only operating systems that are released for the selected PRIMERGY type of the target system are displayed for selection.

Installation Manager supports the installation of the following operating systems:

You will find the latest information on supported server systems and supported operating systems for Japan as part of the restrictions of the ServerView Suite on the Internet.

Microsoft Windows

- Windows Server 2012: Standard Edition, Datacenter Edition, Windows Server Foundation, Windows Storage Server Standard
- Windows Server 2008 (32-bit versions): Standard Edition, Enterprise Edition, Web Server Edition, Small Business Premium Add-on Server
- Windows Server 2008 (64-bit versions): Standard Edition, Enterprise Edition, Datacenter Edition, Web Server Edition, Windows Server Foundation, Small Business Server Standard, Small Busines x64 Premium Edition Add-on Server, EBS Management Server, EBS Messaging Server, EBS Security Server, EBS Database Server).
- Windows Server 2008 R2: Standard Edition, Enterprise Edition, Datacenter Edition, Web Server Edition, Windows Server Foundation)

You can also select whether to install the **Core** variant or the Standard variant (**noCore**) of the operating system.The Core variants are displayed in the list of selectable Windows editions.

Linux (SuSE and Red Hat Enterprise Linux)

- SuSE Linux Enterprise Server 11 Edition i386 and x86_64 (including Service Pack 2 and Service Pack 3)
- Red Hat Enterprise Linux 5.
- Red Hat Enterprise Linux 6.
- Red Hat Enterprise Linux 7

Hypervisor

- VMware ESXi 5.x
- Microsoft Hyper-V Server and Hyper-V Server 2008 R2

If you select **Hypervisor - Microsoft Hyper-V - Microsoft Hyper-V Server or Microsoft Hyper-V Server 2008 R2**, Installation Manager will install Hyper-V as the core variant.

Server Management Configuration

Here you specify whether the server management system settings need to be changed or whether this step can be skipped.

Selected OS shall boot from

Here you specify the partition on the target system the selected operating system shall boot from:

- **GPT Partition (-> UEFI Native Boot Mode)**

  PXE boot is executed in "native" UEFI Boot mode from the GUID Partition Table (GPT) partition

  IPv6

  Starts PXE over IPv6.

  IPv4

  Starts PXE over IPv4.

  System dependent

  Starts PXE over IPv4 or IPv6 depending on the UEFI BIOS settings on the target system.

- **MBR Partition (-> UEFI Legacy Boot Mode)**

  PXE boot is executed in "legacy" UEFI Boot mode from the Master Boot Record (MBR) partition

  Which options are enabled for selection depends on both the PRIMERGY type of the target system and the operating system to be installed on it.

Identify the Hardware Configuration of the Remote System

Here you can specify how Installation Manager shall receive the hardware configuration data of the target system.

Do not use system data

You have to configure target system data offline on the deployment server by using the Installation Manager wizards

Use system data saved in the repository (<date/time>)

The target system's hardware data is taken from the system data stored in the repository (**<date/time>**) on the deployment server.

Please note:

- This option is only enabled for selection if system data is available on the deployment server.
- Check whether the current hardware configuration of the target system is identical as it was at <date/time>.
- If the current hardware configuration of the target system is different from as it was at <date/time>, use the Installation Manager wizards to perform the required adaptations or retrieve the current hardware configuration by selecting **Retrieve system data from the target system**.

Retrieve system data from the target system (The remote system will be restarted)

The PXE infrastructure is used to get the hardware configuration data online from the Installation Manager Agent running on the target system .

This option is only enabled for selection if a remote management interface on the target system has been configured in the **Select the Target System** dialog box.

Start now...

Restarts the target system for detection of the target system's hardware configuration details. The complete hardware detection process may take some minutes.

After you have clicked **Start now...**the procedure continues as follows:

1. Installation Manager opens a confirmation dialog box allowing you to confirm (**OK**) or cancel (**Cancel**) starting the hardware detection on the target system.
2. After you have confirmed with **OK**, Installation Manager blocks the Installation Manager GUI and opens the **Retrieve system data from the target system** dialog box.
3. This dialog box permanently informs you on the step currently being performed by the Installation Manager Agent. During the entire hardware detection process you have the option to cancel its execution.

4. Once hardware detection on the target system has successfully completed, the Installation Manager Agent transfers the system data file to the deployment server and the **Retrieve system data from the target system** dialog box informs you on successful completion.
5. By clicking **Ok** you can close the **Retrieve system data from the target system** dialog box and unlock the Installation Manager GUI.
6. The Installation Manager wizards now use the target system data. E.g., the options offered for selection in the Server Configuration Manager and in the wizard for configuring mass storage devices depend on the detected data.

Installation Manager wizards

The following wizards guide you through the configuration:

- Wizards for target system configuration
  - Server Configuration Manager

    The Server Configuration Manager is only available if you select the **System Management Configuration** option.

  This wizard helps you to configure the general system behavior of the target system and of the target system BMC/iRMC/iRMC S2/S3/S4 where applicable. The Server Configuration wizard is described in section "Server Configuration Manager" on page 129.
  - Wizard for configuring mass storage devices (RAID system/hard disks)

  You use this wizard to configure hard disks and RAID controllers in the target system. The Raid / Disk wizard is described in section "Configuring mass storage devices" on page 130.
- Wizards for configuring installation-specific settings
  - <operating system> (e.g. Windows Server 2008)

  for configuring the specific settings of the operating system you are installing.
  - Application wizard

  for configuring applications that you want to subsequently install on the operating system.

These wizards are described in the following chapters:

- Windows systems:
  see chapter "Configuring Windows and starting the installation" on page 147,
- Linux and VMware ESX/ESXi systems:
  see chapter "Configuring Linux and VMware ESX/ESXi and starting the installation" on page 195.

Installation Info (Summary)

This configuration step provides a summary and overview of all installation settings you have configured. You can now save your configuration to a file and/or start an unattended installation.

4.6.3 Enter Parameters for the Server's BIOS and Hardware Configuration

In this dialog box, you enter the parameters for configuring the BIOS and RAID controllers of the target system.

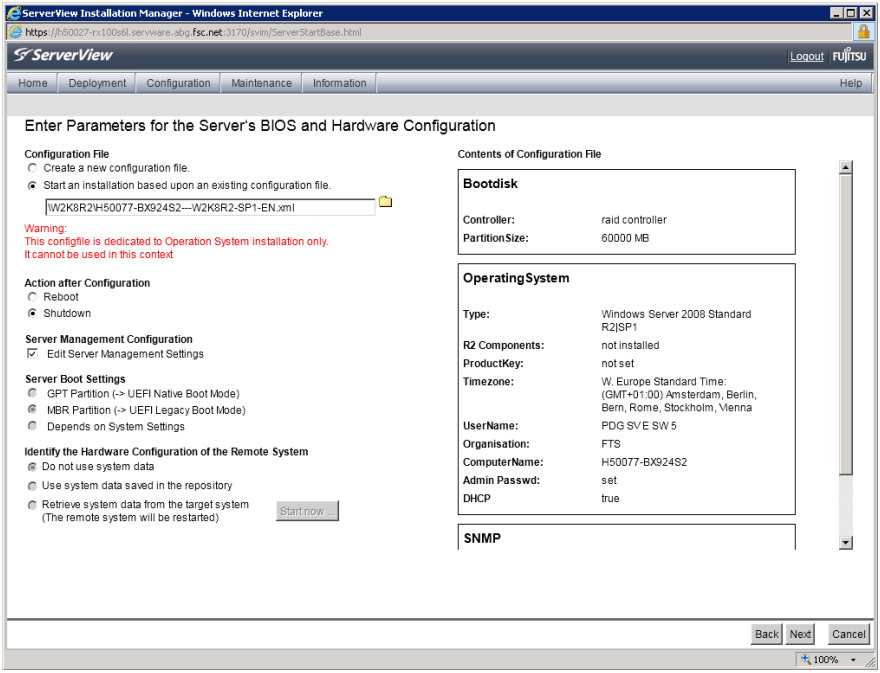


Figure 38: Enter Parameters for the Server's BIOS and Hardware Configuration

Configuration file

Here you specify whether you want to create a new configuration file or use the values from an existing one.

Create a new configuration file

Creates a new configuration file.

Start an installation based upon an existing configuration file

Here you can select a configuration file. The interpreted contents of this file are then displayed on the right of the window under **Contents of Configuration File**.

Click the folder icon to select an existing configuration file. A dialog box opens that allows you to select an appropriate configuration file from the **configfiles** directory of the Installation Manager repository (remote

installation) or from a local backup medium (local installation, customized mode).

Installation Manager provides the configuration file's content in the current session as default values for the configuration. You can use these values as required and save them in the same configuration file or a new configuration file at the end of the session.

You can only use configuration files designed for sytem configuration. Configuration files created for operating system installation cannot be used in this context.

Contents of Configuration File

If you selected an existing configuration file, an extract of its content is displayed here.

Action after Configuration

Here you specify whether the server shall be rebooted or shut down after configuration is completed.

Reboot

Reboots the server after configuration is completed.

Shutdown

Shuts down the server after configuration is completed.

Server Management Configuration

Here you specify whether the server management system settings need to be changed or whether this step can be skipped.

Server Boot Settings

Here you specify the partition the target system shall boot from:

GPT Partition (-> UEFI Native Boot Mode)

Target system boots in "native" UEFI Boot mode from the GUID Partition Table (GPT) partition .

MBR Partition (-> Legacy" UEFI Boot)

Target system boots in "legacy" UEFI Boot mode from the Master Boot Record (MBR) partition .

Depends on the system settings

The partition the target system boots from depends on both the PRIMERGY type of the target system and the operating system installed on it.

Which options are enabled for selection depends on both the PRIMERGY type of the target system and the operating system installed on it.

Identify the Hardware Configuration of the Remote System

Here you can specify how Installation Manager shall receive the hardware configuration data of the target system.

Do not use system data

You have to configure target system data offline on the deployment server by using the Installation Manager wizards

Use system data saved in the repository (<date/time>)

The target system's hardware data is taken from the system data stored in the repository (**<date/time>**) on the deployment server.

Please note:

- This option is only enabled for selection if system data is available on the deployment server.
- Check whether the current hardware configuration of the target system is identical as it was at <date/time>.
- If the current hardware configuration of the target system is different from as it was at <date/time>, use the Installation Manager wizards to perform the required adaptations or retrieve the current hardware configuration by selecting **Retrieve system data from the target system**.

Retrieve system data from the target system (The remote system will be restarted)

The PXE infrastructure is used to get the hardware configuration data online from the Installation Manager Agent running on the target system .

This option is only enabled for selection if a remote management interface on the target system has been configured in the **Select the Target System** dialog box.

Start now...

Restarts the target system for detection of the target system's hardware configuration details. The complete hardware detection process may take some minutes.

After you have clicked **Start now...** the procedure continues as follows:

1. Installation Manager opens a confirmation dialog box allowing you to confirm (**OK**) or cancel (**Cancel**) starting the hardware detection on the target system.
2. After you have confirmed with **OK**, Installation Manager blocks the Installation Manager GUI and opens the **Retrieve system data from the target system** dialog box.
3. This dialog box permanently informs you on the step currently being performed by the Installation Manager Agent. During the entire hardware detection process you have the option to cancel its execution.

4. Once hardware detection on the target system has successfully completed, the Installation Manager Agent transfers the system data file to the deployment server and the **Retrieve system data from the target system** dialog box informs you on successful completion.
5. By clicking **Ok** you can close the **Retrieve system data from the target system** dialog box and unlock the Installation Manager GUI.
6. The Installation Manager wizards now use the target system data. E.g., the options offered for selection in the Server Configuration Manager and in the wizard for configuring mass storage devices depend on the detected data.

Installation Manager wizards

The following wizards guide you through the hardware configuration:

- Server Configuration Manager

The Server Configuration Manager is only available if you select the **System Management Configuration** option.

This wizard helps you to configure the general system behavior of the target system and of the target system BMC/iRMC/iRMC S2/S3/S4 where applicable. The Server Configuration wizard is described in section "Server Configuration Manager" on page 129.

- Wizard for configuring RAID controllers

You use this wizard to configure RAID controllers in the target system. The Raid / Disk wizard is described in section "Configuring RAID controllers" on page 135.

Configuration Info (Summary)

This configuration step, provides a summary and overview of all system settings you have configured. You can now save your configuration to a file and/or enable your settings.

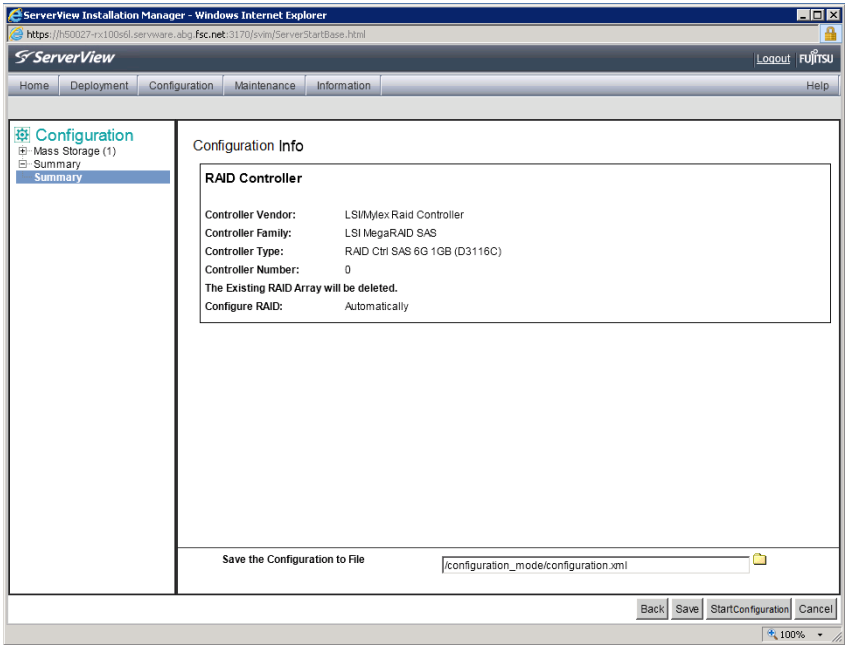


Figure 39: Backing up the configuration / starting the sytem configuration

Save configuration to file

Defines a name for the configuration file (default name: *serstartbatch.xml)*, in which the configured parameters are saved.

Click the folder icon to define a name for the configuration file. A dialog box is displayed.

- You can specify the file name (default name: *serstartbatch.xml*). You can overwrite this default name with any name of your choice.
- You can select or create a folder in which Installation Manager will store the configuration file. The folder is stored within the **configfiles** directory of the Installation Manager repository.

You should not use the default name for long-term backup of the configuration data.

Save

Backs up the configured parameters in the file that you have specified in the **Save the Configuration to File** dialog.

The remote system configuration is not started.

Start Configuration

Starts remote system configuration and backs up the configured parameters in the file you have specified in the **Save the Configuration to File ...** dialog.

For details of how to launch a PXE-based remote installation, refer to section "Launching the PXE-based remote installation / system configuration" on page 124).

After the PXE-based installation is launched, the target system is rebooted. Then the hardware of the target system is configured.

During the remote system configuration the target system may reboot several times.

4.6.4 Launching the PXE-based remote installation / system configuration

After you have verified your installation / system configuration settings in the **Installation Info/ Configuration Info** dialog box (see "Backing up the configuration / starting the installation" on page 191 (Windows), "Backing up the configuration / starting the installation" on page 243 (Linux), or "Enter Parameters for the Server's BIOS and Hardware Configuration" on page 116in the case of a remote system configuration), you can save your configuration and launch the PXE-based remote installation.

From the user's point of view, PXE-based remote installation comprises the following steps:

1. In the **Installation Info / configuration Info**dialog box, click on **Start installation / Start configuration**.
2. Only
   - if the target system does not have a remote management interface (BMC, iRMC, iRMC S2/S3/S4 or management blade) :

   or

   - if you have not specified the settings for the remote management interface of your target system (see "Select the target system (Remote Installation and Remote System Configuration Only)" on page 105):

Start the target system by local operation.

CAUTION!

If your target system is a blade server:

To avoid system boot failure due to not fully initialized MMB and switch blades:

After powering on the blade chassis, wait a few minutes before you initiate a remote PXE boot via MMB. A valuable check is the visibility of listed MAC adresses in MMB WebUI view of your assigned target blade.

For detailed information, refer to the user guide for your server blade.

3. The PXE-based system boot and therefore the installation / system configuration starts automatically.

Only in case of an installation: At the same time, the ServerView Installation Monitor is started automatically on the deployment server. Its **Remote Installation Monitor** window informs you about the progress and state of remote installation processes which have been started.

CAUTION!

Do not start any action on the target server before installation / system configuration is completed!

The target system is then configured. In case of an operating system installation, after one or more possibly necessary restarts, the target system continues with installing the operating system.

The system may reboot several times until installation / system configuration is completed.

4.7 Multiple installation (multi-deployment) of PRIMERGY servers

The Installation Manager allows you to remotely install server systems simultaneously.

To do this, follow the steps below:

1. Start deployment for a target system.

As soon as contact is established with the target system that is to be installed after the installation process has started, the Installation Monitor starts automatically. This provides information about how the installation is progressing (see chapter "Installation Monitor - Monitoring remote installation" on page 245).

2. Start deployment and installation for another target system.

You can use the same configuration file you used for the target system you have already started to install for the deployment of this second target system, or you can use a different configuration file.

The hardware configuration of the two systems must be identical if you want to use the same configuration file. Installation Manager uses the mass memory subsystem to check whether this is the case.

Other hardware parameters, such as RAM, processor type, graphics and LAN controller (if using dynamic IP address allocation via DHCP server) do not affect the success of the installation. These components are dynamically detected during the installation process and therefore do not need to be identical. A Remote Management Controller (BMC/iRMC/iRMC S2/S3/S4) specified in the configuration file does not necessarily have to be present in the target system, provided that this Remote Management Controller is not used to trigger the automatic PXE boot of the target system.

The new remote installation is displayed in the Installation Monitor. You can click on the entries for the active installations to switch between installations and check on how each is progressing. The relevant information continues to be

available after installation is completed (see chapter "Installation Monitor - Monitoring remote installation" on page 245).

5 Configuring the target system

Besides the configuration options for specific operating systems, the Installation Manager in customized installation mode offers many options for configuring

- Server-specific system settings on the target system:

the Server Configuration Manager.

- Hard disks and RAID controllers.

Configuring Server-specific system settings on the target system via the Server Configuration Manager and configuring RAID controllers is **not** possible in the context of a Windows Server 2008 (R2) express installation.

5.1 Server Configuration Manager

The Server Configuration Manager enables you to configure the following settings for the target system:

- General system behavior
- BMC, iRMC or iRMC S2/S3/S4 if they are present on the target system

In order to configure general system behavior, the Server Configuration Manager runs through a sequence of steps with the following functionality:

- Select server type of the target system.
- Configure boot watchdog.
- Configure software watchdog.
- Configure scheduled times for powering the server on and off.
- Configure behavior after power failure and when restarting.
- Configure automatic fan test.
- Configure uninterruptible power supply (UPS) devices.

Depending on the PRIMERGY server type of the target system, not all steps may be performed. The sequence of the individual steps and the configuration options for the individual steps may also vary from system to system.

For details on the individual server configuration dialog steps, please refer to the online help of the Server Configuration Manager.

To access the online help related to a dialog step, proceed as follows:

1. Click in the window area currently displaying this dialog step.
2. Press the **F1** key.

5.2 Configuring mass storage devices

The mass storage device configuration is used to configure the hard disks and RAID controllers. To permit direct installation of operating systems on iSCSI targets, you can also select, partition and format target LUNs.

CAUTION!

The Installation Manager will delete all existing partitions on all disks for which new partitions have been defined.

The hardware configurations of two servers are differentiated solely with reference to the hard disk subsystem. If you intend to use a configuration file for installing a number of target systems, the hard disk subsystems of the target systems in question must satisfy the configured requirements.

Installing Windows Server and Linux operating systems on iSCSI targets

The Installation Manager also enables you to install Windows Server and Linux operating systems directly on iSCSI targets which are connected to your PRIMERGY server via an iSCSI adapter using TCP/IP.

A prerequisite here is that the iSCSI adapter and iSCSI target are configured appropriately before the Installation Manager session starts.

The Installation Manager supports the iSCSI Host Bus Adapter (iSCSI HBA) adapter type for direct installation of Windows Server operating systems on iSCSI targets.

Configuring mass storage devices for installing Windows Server operating systems

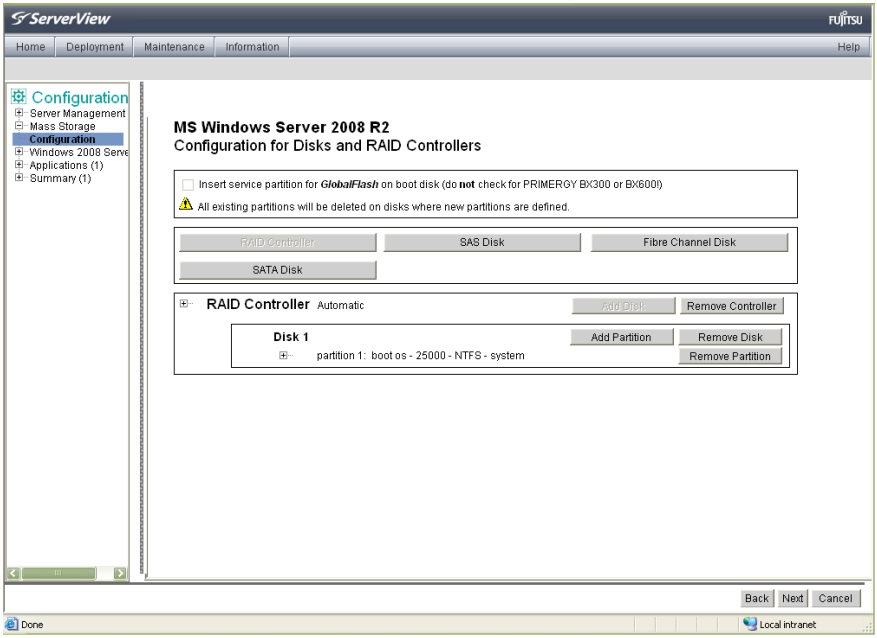


Figure 40: RAID / Disk wizard (Windows Server 2008) in Customized mode

The configuration for a remote installation is shown. In the case of local installation on the target system or remote installation using PXE-based online detection of the target system's hardware configuration, the buttons for adding a controller / logical disk are omitted. Instead, only the controllers / logical disks that are actually present in the system are shown.

In the case of local installation on an iSCSI target or remote installation using PXE-based online detection of the iSCSI target system's hardware configuration, buttons for iSCSI LUNs (logical drives on iSCSI targets) are only displayed if the iSCSI LUNs actually exist and are visible through suitable configuration of the iSCSI adapter and iSCSI target.

Use these buttons to make the following configurations:

RAID Controller

Enables a RAID controller to be configured for the RAID array.

SAS Disk

Enables SAS hard disks which exist in the target system to be partitioned and formatted.

SATA Disk

Enables SATA hard disks which exist in the target system to be partitioned and formatted.

iSCSI HBA Disk

Enables partitioning specifications to be entered for an iSCSI HBA hard disk which exists in the target system.

An iSCSI HBA Disk is an external iSCSI hard disk which is connected to your PRIMERGY server via an iSCSI HBA (Host Bus Adapter) using TCP/IP. The iSCSI HBA is a hardware interface which implements the initiator (iSCSI client) on the PRIMERGY server.

Fibre Channel Disk

Enables external FC (Fibre Channel) hard disks to be partitioned and formatted.

Configuring mass storage devices for installing Linux and VMware operating systems

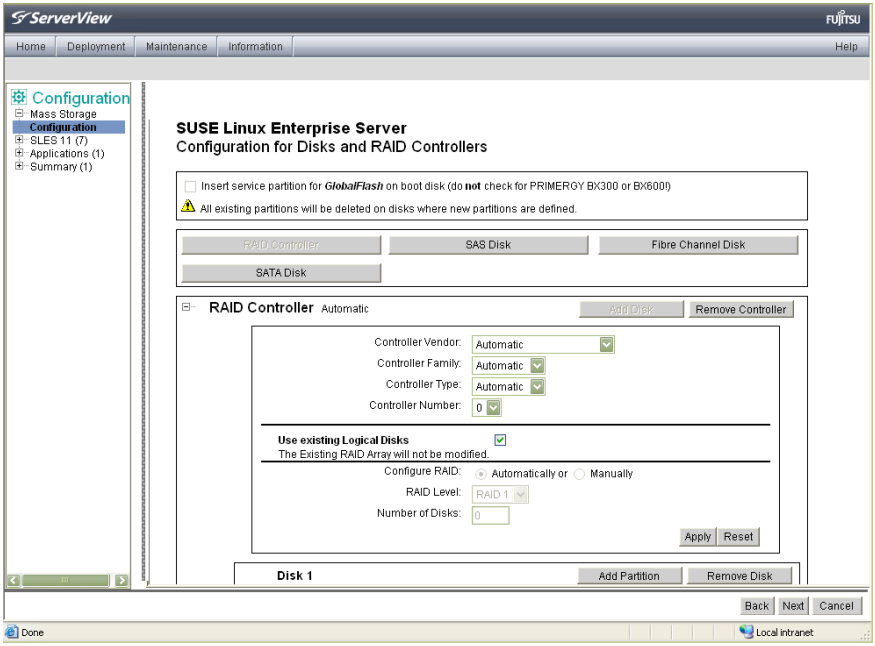


Figure 41: RAID / Disk wizard in Customized mode

The configuration for an offline remote installation is shown. In the case of local installation on the target system or remote installation using PXE-based online detection of the target system's hardware configuration, the buttons for adding a controller / logical disk are omitted. Instead, only the controllers / logical disks that are actually present in the system are shown.

Use these buttons to make the following configurations:

RAID Controller

Enables a new RAID controller to be configured for the RAID array.

SAS Disk

Enables SAS hard disks which exist in the target system to be partitioned and formatted.

SATA Disk

Enables SATA hard disks which exist in the target system to be partitioned and formatted.

Fibre Channel Disk

Enables external FC (Fibre Channel) hard disks to be partitioned and formatted.

5.2.1 Configuring RAID controllers

RAID Controller

Displays the options available for the RAID configuration.

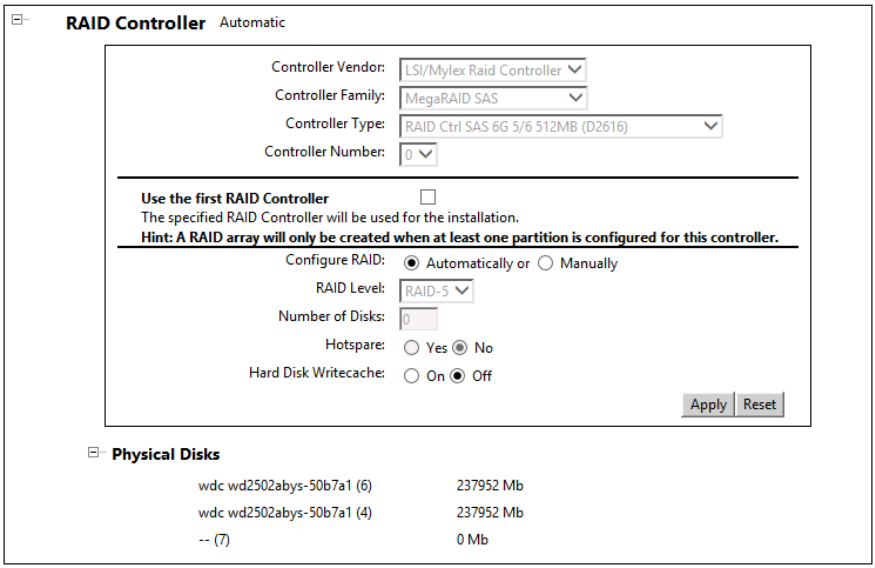

RAID Controller Automatic
Controller Vendor: LSI/Mylex Raid Controller
Controller Family: MegaRAID SAS
Controller Type: RAID Ctrl SAS 6G 5/6 512MB (D2616)
Controller Number: 0
Use the first RAID Controller
The specified RAID Controller will be used for the installation.
Hint: A RAID array will only be created when at least one partition is configured for this controller.
Configure RAID: Automatically or Manually
RAID Level: RAID-5
Number of Disks: 0
Hotspare: Yes No
Hard Disk Writecache: On Off
Apply Reset
Physical Disks
wdc wd2502abys-50b7a1 (6) 237952 Mb
wdc wd2502abys-50b7a1 (4) 237952 Mb
-- (7) 0 Mb

Figure 42: Configure RAID system

Controller Vendor

List showing the vendors of the supported RAID controllers.

Controller Family

List showing the RAID controllers of the selected vendor.

Controller Type

List showing the controller variants of the selected family.

Controller Number

Sets the controller number. The number refers to the entries specified in the three preceding fields.

If, for example, a vendor is specified more precisely (value not equal to **Automatic**), but the value Automatic is selected for **Controller Family** and **Controller Type**, the **Controller Number** refers to this vendor's controllers. If **Controller Family** is also specified more precisely, **Controller Number** refers to the controllers of this vendor's specified controller family, etc.

Use existing Logical Disks

Disables the subsequent options and uses the existing RAID array on the target system. If you do not select this option, the existing RAID array will be deleted and you can configure a new RAID array with the following options.

Configure RAID

Specifies how the RAID array is to be configured.

Automatically

Configures the RAID array across all existing disks. In this case, the RAID level is determined by the number of hard disks and the functionality of the controller:

- One disk: RAID7(JBOD)
- Two disks: RAID1
- Three disks: RAID5 (if the controller is capable of managing level 5.)
- More than three disks: RAID5 with hot spare (if the controller is equipped for this)

Type of RAID controller

- Type A: The controller is capable of managing RAID 5.
- Type B: The controller is capable of managing RAID 1E.
- Type C: The controller is capable of managing only RAID 1.

Detailed information on the number of supported hard disks and RAID levels depending on the RAID controller type.

Type A

# of HDD	RAID Level
1	RAID 0
2	RAID 1
3	RAID 5
4 or more	RAID 5 + Hot spare

Type B

# of HDD	RAID Level
1	RAID 0
2	RAID 1
3	RAID 1 (one disk is not used)
4 or more (even)	RAID 1E
5 or more (odd)	RAID 1E (If the RAID controller does not support odd numbers of disks, the number of disks per array is decreased by one automatically.)

Type C

# of HDD	RAID Level
1	Cannot constitute.
2	RAID 1
3 or more	Cannot constitute.

Manually

Using the **Manually** option, you can configure the settings yourself:

RAID Level

In the case of local installation on the target system or remote installation using PXE-based online detection of target system data:

The RAID level depends on the underlying controller's capabilities and the number of connected hard disk drives. You only see the RAID levels that can be configured.

Determines the level of data security:

RAID 0

Striping (no redundancy). Data reconstruction is not possible. If a hard disk fails, the data on that hard disk is lost.

RAID 1

Mirroring. If a hard disk fails and is replaced, its data is reconstructed automatically (rebuild).

If an additional hard disk is available as a standby disk (see the **Hot Spare** option), it is automatically activated as a replacement for the defective disk, and the data from the defective disk is reconstructed on this standby disk (rebuild).

RAID 5

Distributed parity information. If a hard disk fails and is replaced, its data is reconstructed automatically (rebuild).

If an additional hard disk is available as a standby disk (see the **Hot Spare** option), it is automatically activated as a replacement for the defective disk, and the data from the defective disk is reconstructed on this standby disk (rebuild).

RAID 10

Comprises a combination of striping and mirroring. Faster than RAID1, but redundant, unlike RAID 0.

RAID 50

A combination of RAID 0 with a striped version of RAID 5. In this case, a RAID 0 array is created from at least two striped RAID 5 arrays. To implement this, you therefore require at least six disks.

Number of Disks

Specifies the number of disks included in the RAID array. If all available hard disks are to be used, enter "0".

Hot spare

Here you specify whether you want to use an additional standby disk for recovery in the event of disk failure if you are using RAID levels 1 or 5. Then if a hard disk fails, the standby disk takes over the function of the defective hard disk. The data is still redundant.

Hot spare disks cannot be used with blade servers.

Blade servers contain a maximum of two disks, while at least three disks are required for the hot spare option. The Hotspare option is therefore disabled when you are configuring blade servers.

If you want to configure the system with a hot spare hard disk, select Yes.

Hard Disk Writecache

Specifies whether the hard disk write cache - if available - shall be used.

Apply

Saves the values that are currently set.

Reset

Restores the values that were saved most recently.

5.2.2 Configuring hard disks

The following step for configuring hard disks is structured identically for *RAID controllers*, *SAS disks*, *SATA disks*, *iSCSI HBA Disks*, and *Fibre Channel disks*.

All existing partitions on a target hard disk are deleted.

Add disk
Creates a new hard disk entry. An additional group is displayed for configuring a new hard disk.

Disk <n>
Displays the options available for configuring the new hard disk.

Add partition
Creates a new partition in the configuration. An additional group is displayed for creating a new partition.

Remove disk
Deletes the associated hard disk entry in the configuration.

Remove partition
Deletes the entry in the configuration for the partition shown beside it.

Partition <n>
Partition already configured. You can edit the configuration parameters of the partition.

Delete controller
Deletes the controller from the configuration.

5.2.3 Configuring partitions

CAUTION!

When you configure new partitions for a hard disk, Installation Manager deletes all existing partitions on the disk.

The steps for configuring partitions for Linux / VMware ESX/ESXi systems are different from the steps for Windows systems.

5.2.3.1 Configuring partitions (Windows)

The steps for configuring partitions for *RAID disks*, *SCSI disks*, *IDE disks* and *Fibre Channel disks* are structured identically.

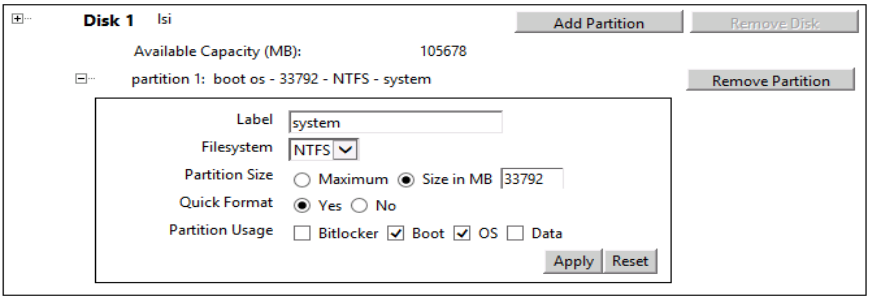


Figure 43: Configuring hard disk partitions (Windows)

Partition <n>

Displays the options available for configuring the partition.

Label

Name of the partition.

File system

Defines the system type for the selected partition. The following types are permitted: NTFS and FAT.

Partition Size

Specifies the size of the partition in MB.

Maximum

The partition is created with the largest possible size.

The **Maximum** option allows you to select only one partition per hard disk.

Due to technical reasons, after installation, the last 5 GB of logical disk space remain unallocated and unconfigured. However, his memory can be allocated without problems.

Size in MB

Integer (e.g. 2048) indicating the size of the partition (in MB).

QuickFormat

Specifies whether the hard disk is to be formatted in quick format mode.

In quick format mode, the hard disk is not checked for corrupt sectors during formatting. You should therefore only use quick format mode if the hard disk has already been formatted properly and it has been found to be undamaged.

If you do not select the quick mode formatting takes several hours.

Partition Usage

Defines the purpose for which the partition is to be used.

Bitlocker

Needed to use the "BitLocker Drive Encryption" feature.

Boot

Boot partition with OS loader.

OS

Partition for the Windows system files.

Data

Partition for data that is not system-specific.

Apply

Saves the new or changed configuration.

Reset

Restores the last saved values of the options for the partition currently being edited.

5.2.3.2 Configuring partitions (Linux / VMware ESX/ESXi)

The steps for configuring partitions for RAID disks, SCSI disks, IDE disks and Fibre Channel disks are structured identically.

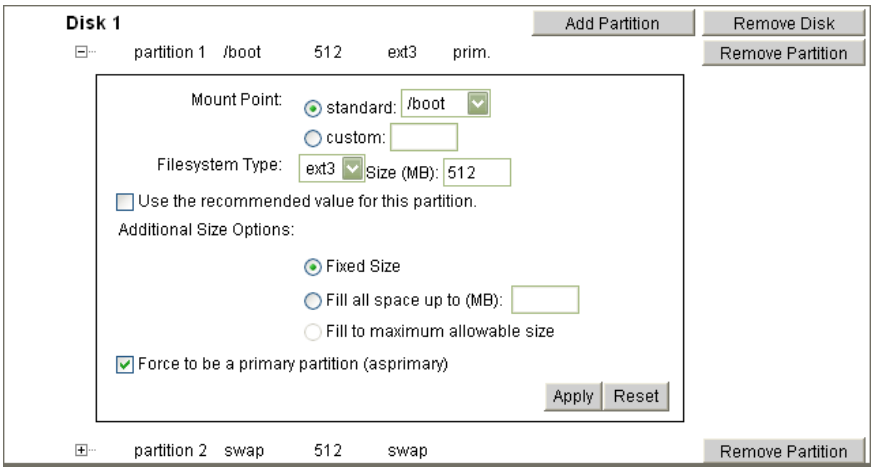


Figure 44: Configuring hard disk partitions (Linux)

Partition <n>

Displays the options available for configuring the partition.

Mount Point

Determines the directory in the target system's directory structure to which the partition is to be added (mounted). The partition's directory structure is added to this directory.

Standard

Selects the mount point: */boot*, */var*, */tmp*, */usr*, */opt*

Custom

Defines a directory of your choice as the mount point.

Specify the directory using the following notation:

/<directoryname> (e. g. */mydirectory*)

Size (MB)

Integer (e.g. 2048) indicating the maximum size of the partition (in MB).

Use the recommended value for this partition

If you select a default mount point for the partition and then select this option, the optimal size specifications for the selected mount point are automatically applied to the partition.

In this case, **Additional size options** are disabled.

Additional Size Options

Enables the size specification to be made more precise.

Fixed Size

Creates a partition with the size specified in **Size**.

Fill all space up to (MB)

The partition will be expanded to the value specified here.

Fill to maximum available size

The partition is created with the largest possible size.

This option can only be selected for one partition per hard disk.

Force to be a primary partition (as primary)

Creates the partition as a primary partition of the hard disk.

Up to four primary partitions are possible on each hard disk.

Create a lv group with the name

Not SuSE SLES and VMware.

Creates an LV group (LV = Logical Volume) with the specified name. LV groups are based on the LVM (LVM = Logical Volume Manager) which implements an abstraction level between hard disks and file systems.

You can not create more than one LV group on the target system.

LV groups are based on the LVM which implements an abstraction level between hard disks and file systems.

You can assign an LV group to several virtual partitions (logical volumes). File systems that are created on a logical volume of this type can later

occupy several physical partitions in the installed system.

The **RAID / Disk** wizard displays an LV group as follows:

Figure 45: RAID / Disk wizard - LV groups and logical volumes

When configuring a logical volume (virtual partition), you can assign a name of your choice to the logical volume.

Name of the Logical Volume

Name of the logical volume.

Apply

Saves the new or changed configuration.

Reset

Restores the last saved values of the options for the partition currently being edited.

6 Configuring Windows and starting the installation

When you configure the unattended installation of a Windows operating system, the Installation Manager's wizard guides you through each configuration step. Or, you can activate the individual configuration steps directly and thus determine the sequence of the steps yourself.

The configuration steps are described here in the order they are presented in the wizard.

6.1 User interface

The structure of the wizard's user interface is uniform:

- In the left area, click on the appropriate link in the tree structure to select a configuration step directly.
- The parameters of the current configuration step will be displayed in the right area.

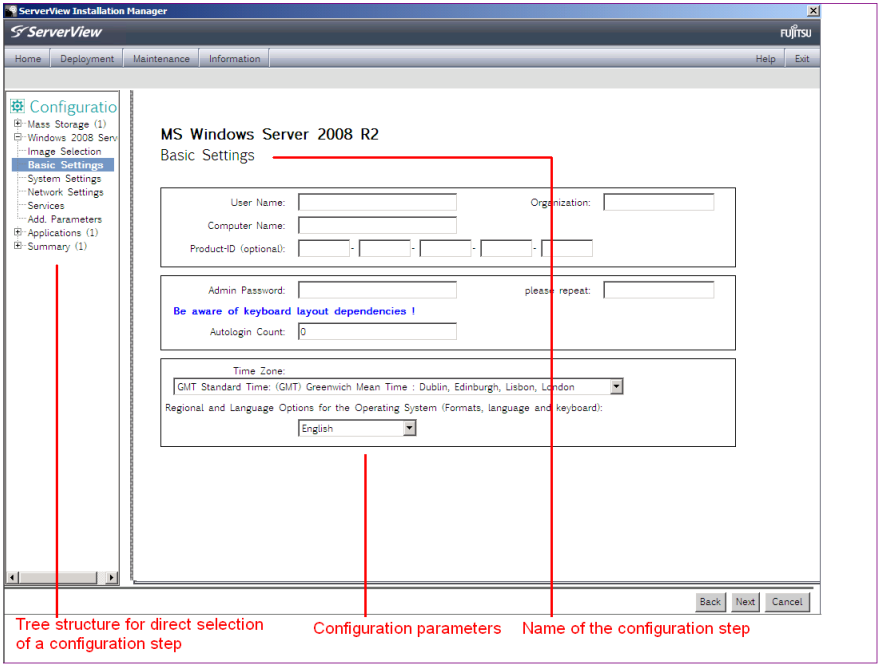


Figure 46: User interface for configuring the unattended installation

Next

Click on **Next** to go to the next configuration step.

Back

Click on **Back** to return to the previous configuration step.

Cancel

Click on **Cancel** to stop configuring in the current wizard.

All changes will be discarded.

6.2 Installing Windows (typical)

In detail, configuring a typical Windows installation includes the following steps:

- Configure hard disks/RAID controllers using the RAID / Disk wizard.
- Configure installation of the Windows operating system.
- Save installation parameters and/or start installation.

You cannot install Windows Server 2008 Server Core in typical mode.

If you use a USB stick as status backup media for Windows Server 2008 / 2012 installation remove it in the Boot menu of the BIOS setting.

If you use a floppy disk or a USB stick as status backup media for Windows Server 2008 (64-bit) / Windows Server 2012 installation, change the boot order in BIOS: set the hard disk above the floppy disk and USB stick.

Prerequisites

- You must have started Installation Manager on the target system, see "Starting Installation Manager on the target system" on page 37.
- You must have started the local deployment, see "Starting local deployment" on page 48.
- You must have selected **Typical** installation mode in the **Installation Manager Deployment Process** window.
- You must have selected the operating system, operating system variant, and the service pack in the **initial window** of the **unattended installation configuration**, see "Starting local deployment" on page 48.
- You must have made additional settings before clicking on **Next**.

6.2.1 Configuring disks and RAID controllers (typical)

In this dialog box, you configure the disks and corresponding controllers on the target system during a local installation via DVD. In this case Installation Manager checks the configuration of the computer and only offers options that are compatible with the existing controller and disk.

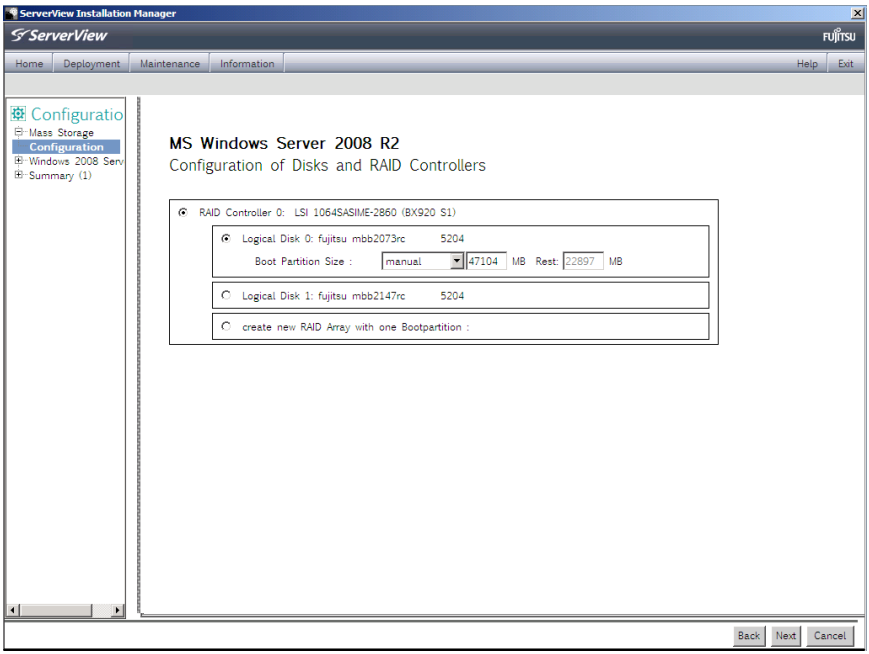


Figure 47: Installing Windows (typical): Configuring disks and RAID controllers

RAID Controller

Displays the RAID controller(s) that have been detected in the system.

Logical Disk 0

Uses the existing RAID array and does not change the configuration of the RAID controller selected. In this case you only determine the size of the boot partition.

Boot Partition Size

Specifies the size of the boot partition.

Minimum

Specifies 25000 MB as minimum size of the boot partition.

All Disk

Specifies the whole disk for the boot partition.

Due to technical reasons, after installation, the last 5 GB of logical disk space remain unallocated and unconfigured. However, his memory can be allocated without problems.

Manually

Uses the specified size for the boot partition.

Create new RAID Array with one boot partition

Configures a new RAID array on the RAID controller selected. Every existing RAID configuration of this controller will be cleared.

RAID Level

Determines the level of data security.

The RAID level depends on the underlying controller's capabilities and the number of connected hard disk drives. You only see the RAID levels that can be configured.

automatic

Configures the RAID array across all existing disks. The number of disks determines the RAID level if the controller supports this level:

- One disk: JBOD
- Two disks: RAID 1
- Three disks: RAID 5
- More than three disks: RAID 5 with recovery in the event of disk failure

RAID 0

Striping (no redundancy): Data reconstruction is not possible. If a hard disk fails, the data on that hard disk is lost.

RAID 1

Mirroring: If a hard disk fails and is replaced, its data is reconstructed automatically (rebuild). If an additional hard disk is available as a standby disk (see the "Hotspare" option), it is automatically activated as a replacement for the defective disk, and the data from the defective disk is reconstructed on this standby disk (rebuild).

RAID 5

Distributed parity information: If a hard disk fails and is replaced, its data is reconstructed automatically (rebuild). If an additional hard disk is available as a standby disk, it is automatically activated as a replacement for the defective disk. The data from the defective disk is reconstructed on this standby disk (rebuild).

RAID 6

Similar to RAID 5, but considerably faster.

RAID 10

Comprises a combination of striping and mirroring. Faster than RAID 1, but includes redundancy, unlike RAID 0.

Boot Partition Size

Specifies the size of the boot partition.

Minimum

Specifies 25 000 MB as minimum size of the boot partition.

All Disk

Specifies the whole disk for the boot partition.

Due to technical reasons, after installation, the last 5 GB of logical disk space remain unallocated and unconfigured. However, his memory can be allocated without problems.

Manually

Uses the specified size for the boot partition.

6.2.2 Configuring Windows installation

In this step you configure the settings of the Windows operating system that is to be installed.

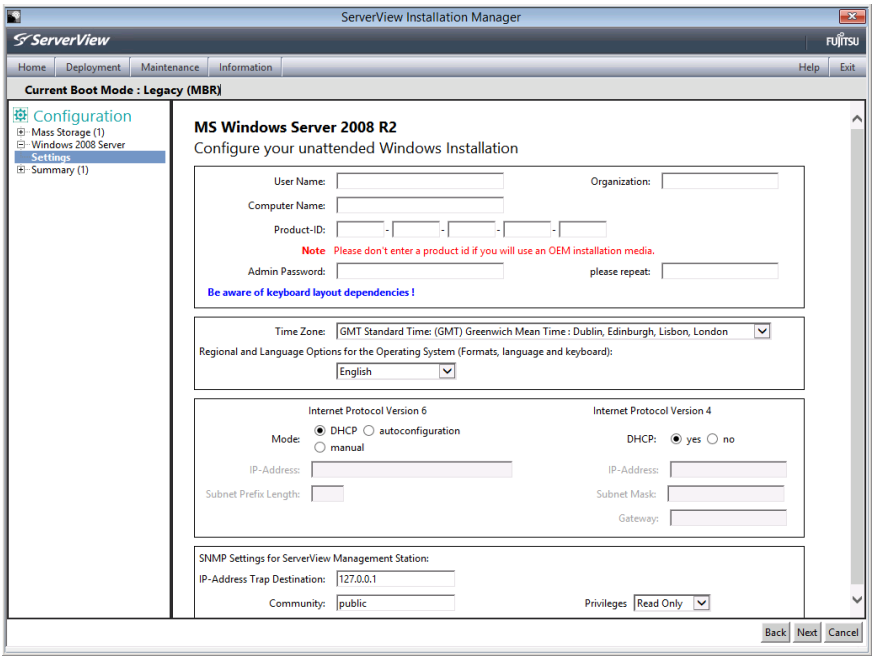


Figure 48: Installing Windows (typical): Configuring Windows settings

User Name

Name of the default target system user. This name should be identical to the name of the owner of the Windows license.

This entry does not specify an user account.

Organization

Name of the default user's company or organization

Computer Name

Name of the computer in the workgroup or domain.

In the course of the installation process, lower case letters in **Computer Name** will automatically be changed to upper case letters.

Product-ID (optional)

License number of the Windows version

In the case of a typical local installation:

Do not enter a product key if you use Fujitsu OEM operating system installation media.

In the case of a user-defined Windows installation:

If you selected "Fujitsu OEM media" in the preceding **Select the Installation Image** dialog box, this input field is disabled.

If you use a DSP version of Windows, the license number is stored on the CD and is added to the configuration file during installation. In other Windows variants, the license number must be entered the first time the operating system is started following the installation.

Admin Password / please repeat

Password for the administrator account on the server, which must be entered twice for security reasons.

The following requirements must be met:

- A valid password must consist of at least 6 characters.
- A valid password must meet 3 of the following criteria:
  - at least 1 uppercase letter (A-Z, English)
  - at least 1 lowercase letter (a-z, English)
  - at least 1 base 10 digit (0-9)
  - at least 1 non-alphabetic character (e.g. '!', '$', '#', '%', ...)

Time Zone

The time zone in which you work. The time zone is entered as a key in the configuration file. If you install a Japanese OS using the Operating System - Recovery DVD for Windows Server 2008 R2 select **Japanese**.

Regional and Language Options for the Operating System (Formats, language and keyboard)

Sets the language for the windows installation.

Internet Protocol Version 6 Parameters

Here you configure the Internet Protocol version 6 parameters (IPv6).

Mode

Sets the mode.

DHCP

The IPv6 settings will be received from a DHCP server on the network.

Do not activate the DHCP mode if there is no DHCP available on your network.

Autoconfiguration

The target system opens an internet connection via the IPv6 autoconfiguration process. The target system communicates with the relevant routers in order to investigate the communication parameters.

Manual

Installation Manager explicitly requests the IPv6 parameters.

The IPv6 parameters described in the following will only be displayed, if the **Manual** mode has been chosen.

IP Address

IPv6 address.

Subnet Prefix Length

Length of the Subnet Prefix. The Subnet Prefix is composed of the Global Routing Prefix and the Subnet ID.

Internet Protocol Version 4 Parameters

Here you configure the Internet Protocol version 4 parameters (IPv4).

DHCP

If you enable DHCP, the IPv4 settings will be received from a DHCP server on the network.

yes

DHCP will be enabled.

no

DHCP will not be enabled.

Do not activate DHCP if there is no DHCP available on your network. Otherwise, the server will not boot because it cannot obtain an IP address.

The IPv4 parameters described below will only be shown if **no** has been selected for DHCP.

IP Address
IPv4 address.

Subnet mask
Subnet mask. The subnet mask uses the IP address to assign a specific subnet to the IP address.

Gateway
IP address of the default gateway computer or default router.

SNMP Settings for the ServerView Management Station

Here you configure the SNMP service of the target system in order to setup the SNMP communication between the ServerView Central Management Station(s) and the target server.

IP Address for Trap Destination
This list shows the IP addresses of the computers to which SNMP messages are to be sent.

SNMP Community
Name of the community group that is permitted to send SNMP queries to the target system. This name is a component of every SNMP message that the agent sends to the Management Platform. This setting is case-sensitive.

SNMP uses community groups to control authorizations for read and write access by SNMP Manager to the monitored objects (MIB objects). A community name is included in every SNMP message, and identifies the sender of the message as a member of a given community. SNMP Manager and agents can only communicate if they belong to the same community.

Privileges

Defines the privileges assigned to the community name: None, notify, read only, read and write, read and create. Read Only is the default setting. To use settings like SVR in ServerView Operations Manager, set this option to read write.

6.2.3 Backing up the configuration / starting the installation

This step shows the parameters that have been configured. You can back up these parameters to a file and/or start the unattended installation on the basis of the configuration shown.

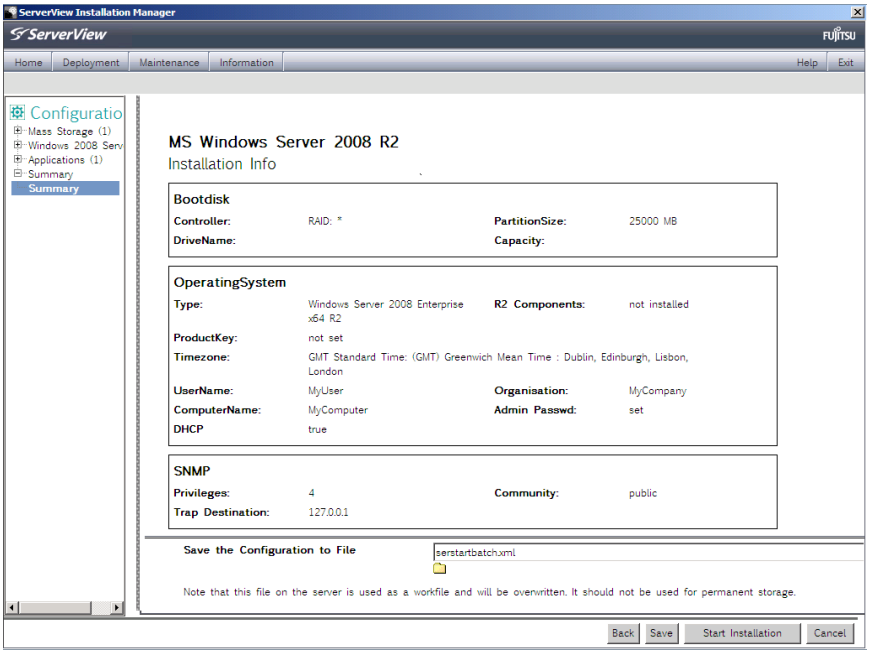


Figure 49: Backing up configuration / Starting installation

Save

Saves the configured parameters in the temporary file *SerStartBatch.xml*. The unattended installation is not started.

If you have provided an external backup medium (e.g. USB memory stick), the configuration file is saved on that medium.

Start Installation

Starts the unattended installation of the operating system.

If you have selected a local drive as the source device, Installation Manager will ask you to insert the required medium (CD/DVD). In this case, insert the medium and click on **OK**.

If you are using an external backup medium (USB stick), note:

- Do not remove the medium. Otherwise, the automatic installation process may be stopped (e.g. while installing Windows Server 2008, x64 Edition)
- If you use Installation Manager version < 10.09.10 for installation of Windows Server 2008, x64 Edition, a dialog box **Select save location for the configuration file** will be displayed after the reboot of the target system.

In this case proceed as follows:

1. Select the **local drive** option and choose the external backup medium.
2. Click on **Next** to continue with the installation.

After the installation is started, the system reboots. Then, before the operating system installation starts, the hardware of the system is configured.

After the installation is started, the hardware of the system is configured and the system reboots.

During the unattended installation the target system may reboot several times.

6.3 Installing Windows (customized)

In detail, configuring a customized Windows installation includes the following steps:

- Configure general system behavior and remote management controller using the Server Configuration Manager (optional).
- Configure hard disks/RAID controllers using the RAID / Disk wizard.
- Configure installation of the Windows operating system.
- Configure the installation of applications.

If you use a floppy disk or a USB stick as status backup media insert it into a server before switch on. Then select **Rescan** in **StartUp** window.

If you use a USB stick as status backup media for Windows Server 2008 / 2012 installation remove it in the Boot menu of the BIOS setting.

If you use a floppy disk or a USB stick as status backup media for Windows Server 2008 (64-bit) / Windows Server 2012 installation, change the boot order in BIOS: set the hard disk above the floppy disk and USB stick.

Prerequisites

- You must have started Installation Manager locally on the target system or on a deployment server and made the following specifications:
  - In the case of local installation you must have selected **Customized** installation mode in the **Installation Manager Deployment Process** window, see "Starting Installation Manager on the target system" on page 37.
  - In the case of remote installation in the **Select the Target System** configuration step, you must have specified the required information for the target system (MAC address of the LAN adapter that is to be used for communicating with the deployment server, PRIMERGY system type, etc.), see "Select the target system (Remote Installation and Remote System Configuration Only)" on page 105.
- You must have selected the operating system, operating system variant, and the service pack in the **initial window** of the **unattended installation**

configuration.

- You must have made additional settings before clicking **Next**.

6.3.1 Server Configuration Manager

The configuration steps for the Server Configuration Manager are only offered if you have selected the **Edit Server Management Settings** option in the **initial window** for configuring the installation process.

The Server Configuration Manager offers a number of configuration steps, with which you configure additional settings for the target system besides configuring the installation process.

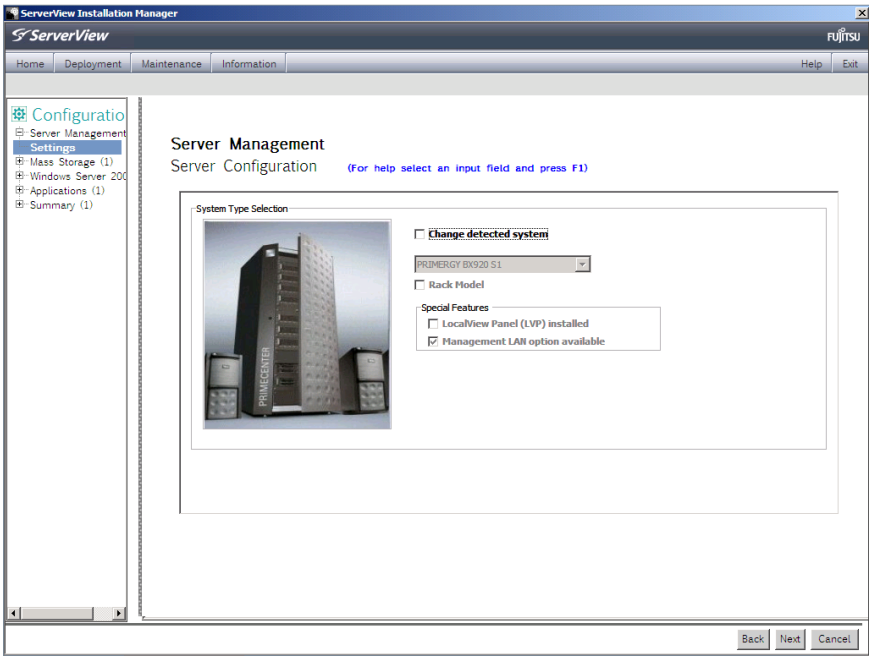


Figure 50: Installing Windows (customized): Server Configuration Manager

For a description of the Configuration Manager, refer to section "Server Configuration Manager" on page 129.

6.3.2 Configuring Disks and RAID controllers

You can use the RAID / Disk wizard to assist you in configuring hard disks and RAID controllers.

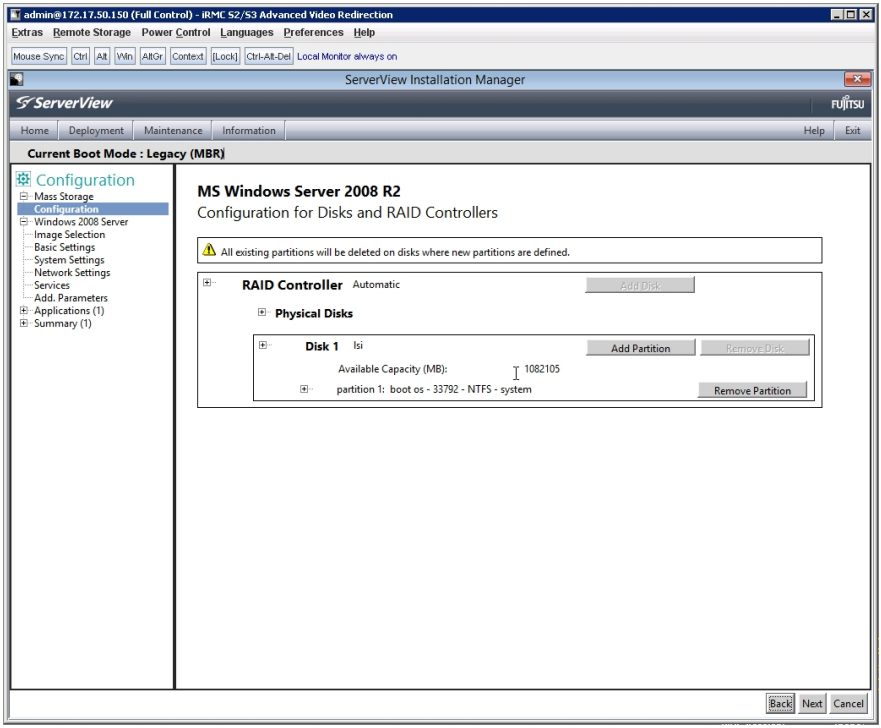


Figure 51: Installing Windows (customized): Configuring disks and RAID controllers

For instructions on configuring hard disks and RAID controllers, refer to section "Configuring mass storage devices" on page 130.

6.3.3 Configuring Windows Server 2008 / Windows Server 2012

6.3.3.1 Select the Installation Image

In this dialog box, you select the installation variant and additional details based on this variant.

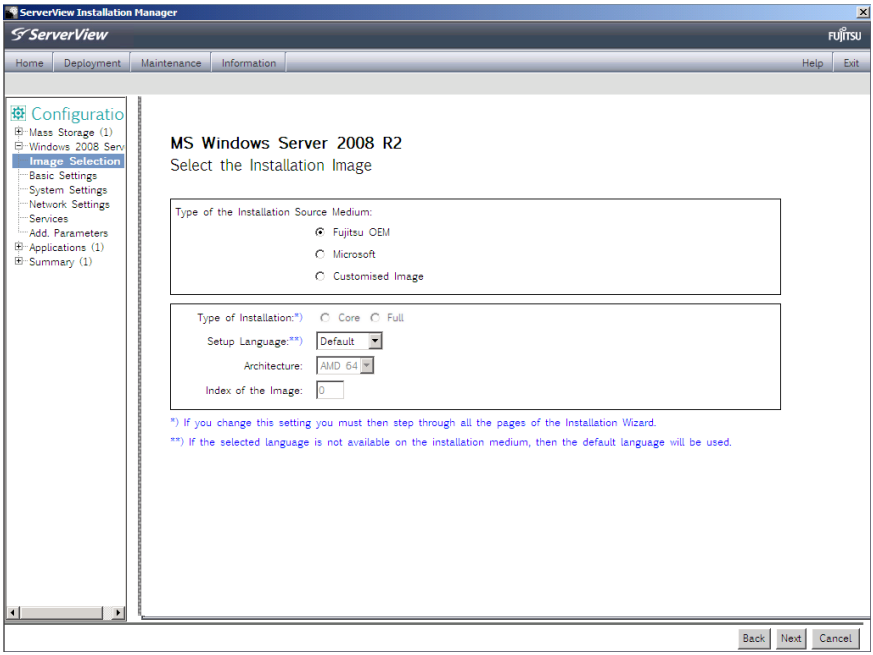


Figure 52: Installing Windows (customized): Specifying the installation medium

Type of the Installation Source Medium

Defines the provider of the installation medium.

Fujitsu OEM

CD/DVD with Fujitsu OEM version of Windows Server 2008 / 2012

Microsoft

Original Microsoft Windows Server 2008 / 2012 installation CD/DVD

Customized Image

A customized installation DVD or ISO image with Microsoft Windows Server 2008 / 2012. If you select this option, you may only install the full version of Windows Server 2008 / 2012.

Type of Installation

No longer selectable this way.The core or full variant can now be selected int **Configure Your Unattended Operating System Installation** dialog box (see section"Configure Your Unattended Operating System Installation" on page 110).

Note: If you change one of the following parameters, you will need to go through all the subsequent dialog boxes in the wizard again.

Core

Installs Server Core. Server Core allows you to execute the specific server roles of Windows Server 2008 / 2012 on a system where the graphical user interface has been reduced to a minimum.

Full

Installs the full Windows Server 2008 / 2012 operating system.

Setup Language

Language for the Windows installation. You cannot select a language for the Microsoft or customized **installation media**.

If the selected language is **Default** or not available on the installation media, then the default language of the installation media will be used. If you install a Japanese OS using the Operating System - Recovery DVD for Windows Server 2008 R2 select **Japanese**.

Architecture

Architecture of the target system CPU (Intel x86 or AMD64) that you selected under **Select the operating system** in the **Configure Your Unattended Operating System Installation** dialog box. The architecture type displayed here cannot be changed. It is an essential prerequisite for the installation on the target system. The installation medium must support this architecture type.

Index of the Image

Index of the image on the installation medium. The default setting of "0" can only be changed for the customized **installation medium**.

6.3.3.2 Basic Settings

Configure default user of the target system

In this dialog box, you specify the default user on the target system.

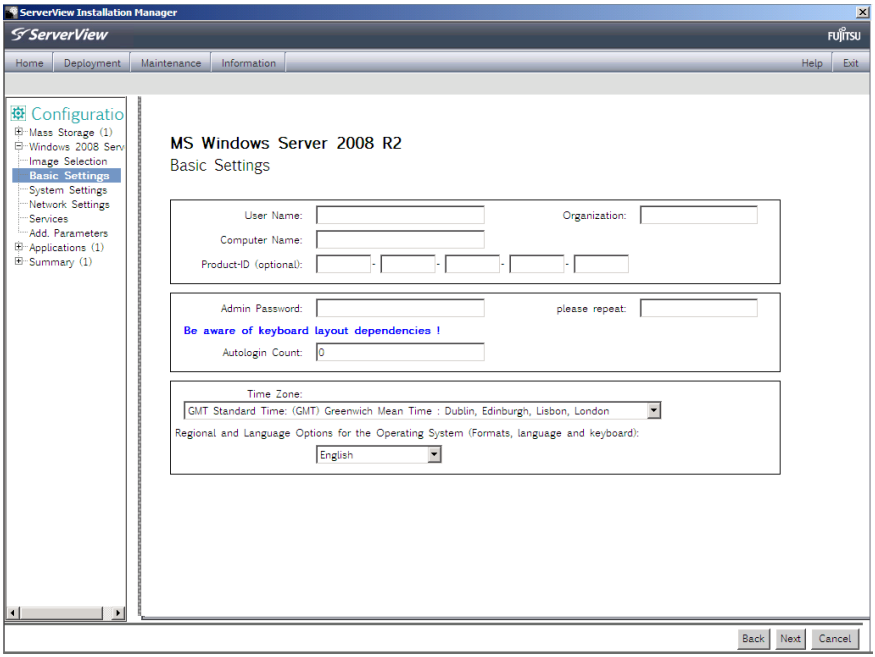


Figure 53: Installing Windows (customized): Configuring basic parameters

User name

Name of the default target system user. This name should be identical to the name of the owner of the Windows license.

The user name does not specify an user account.

Organization

Name of the default user's company or organization

Computer Name

Name of the computer in the workgroup or domain.

In the course of the installation process, lower case letters in **Computer Name** will automatically be changed to upper case letters.

Product-ID (optional)

License number of the Windows version

In the case of a typical local installation: do not enter a product key if you use Fujitsu OEM operating system installation media.

In the case of a user-defined installation:

If you selected "Fujitsu OEM media" in the preceding **Select the Installation Image** dialog box, this input field is disabled.

If you are using a DSP version of Windows, the license number is stored on the CD and is added to the configuration file during installation. In other Windows variants, the license number must be entered the first time the operating system is started following the installation.

Admin Password

Password for the administrator account on the server, which must be entered twice for security reasons.

The following requirements must be met:

- A valid password must consist of at least 6 characters.
- A valid password must meet at least 3 of the following criteria:
  - at least 1 uppercase letter (A-Z, English)
  - at least 1 lowercase letter (a-z, English)
  - at least 1 base 10 digit (0-9)
  - at least 1 non-alphabetic character (e.g. '!', '$', '#', '%', ...)

Autologin Count

Defines the number of times Installation Manager is to log on automatically after the installation.

Time Zone

The time zone in which you work. The time zone is entered as a key in the configuration file. If you install Japanese OS, select **(GMT+09:00) Osaka, Sapporo, Tokyo**.

Parameters for a typical, local installation

DHCP

The target system retrieves its IP address and additional configuration parameters from a DHCP server. If you select **no**, the parameters for the static IP configuration are displayed.

IP address

IP address of the selected adapter

subnet mask

IPv4 only: Subnet mask for the selected adapter. The subnet mask assigns a specific subnet to the IP address.

Gateway

IP address of a gateway computer or router.

SNMP Settings for the ServerView Management Station

Here you specify the management stations to which you want the SNMP agent to send traps:

IP Address for Trap Destination

This list shows the IP addresses of the computers to which SNMP messages are to be sent.

Community

Name of the community group that is permitted to send SNMP queries to the target system. This name is a component of every SNMP message that the agent sends to the Management Platform. This setting is case-sensitive.

SNMP uses community groups to control authorizations for read and write access by SNMP Manager to the monitored objects (MIB objects). A community name is included in every SNMP message, and it identifies the sender of the message as a member of a given community. SNMP Manager and agents can only communicate if they belong to the same community.

Privileges

Defines the privileges assigned to the community name: None, notify, read only, read and write, read and create.

Parameters for user-defined local and remote installation

Regional and Language Options for the Operating System

Defines the language of the operating system, the keyboard layout and country-specific settings for the target system.

6.3.3.3 System Settings

Configure target system parameters and installation source

In this step, you provide network identification information about the target system.

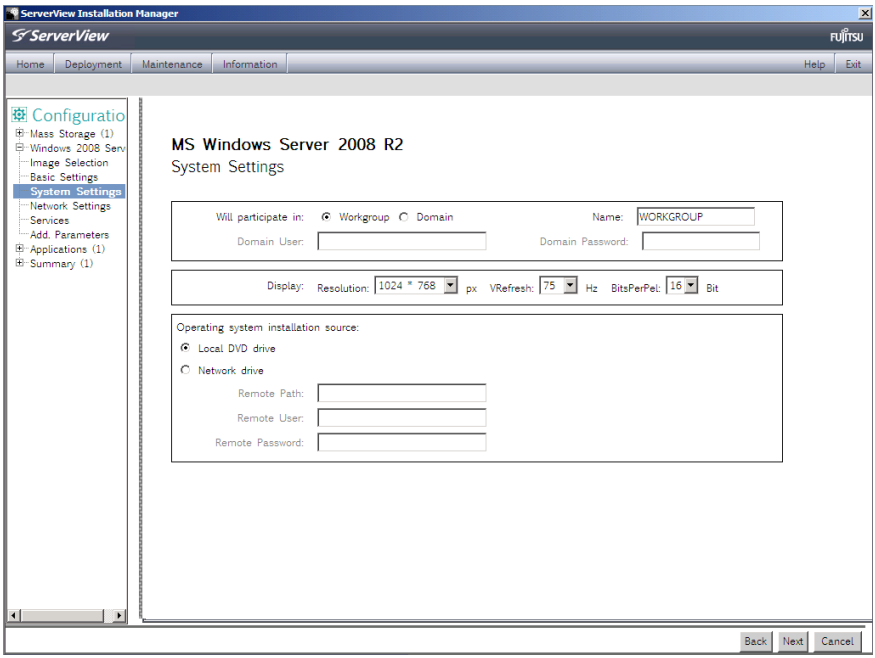


Figure 54: Installing Windows (customized): Configuring system parameters

Will participate in

Defines the group to which the target system belongs.

Workgroup

Your system is included in a workgroup, which you must also specify.

Domain
Your system is included in a domain, which you must also specify.

Name
Name of the workgroup or domain.

Domain User
User account with authorization to add a computer to the domain. This entry is required if you want to add the system to a domain. You must also specify the user account if an entry for a computer with this name already exists in the domain.

Domain Password
Password for the user account.

Display
Here you specify the settings used to display the Windows user interface the first time it is started.

Resolution
The number of pixels per horizontal line, multiplied by the number of (pixel) lines on the screen. If the connected plug-and-play screen cannot display the configured resolution, the Windows display can be reset to standard VGA when it is started for the first time.

VRefresh
Vertical screen refresh rate.

BitsPerPixel
Number of bits per pixel.

Operating system installation source

Defines the location of the installation packages for the operating system:

Local DVD drive (local installations only)

Installs the operating system from the local DVD drive.

Network drive

Installs the operating system from the specified network drive.

Remote Path

Path of the network drive in UNC notation in the form: `\\<server>\<path>`, e.g. `\\myserver\share`.

Remote User

User account with the rights required to access the network drive. The account must exist on the computer that is referenced by the URL and which provides the resources. The newly created user must have read privileges on the computer for the directory in the path specified above.

Remote Password

Password for the user account.

6.3.3.4 Network Settings

In this dialog box, you specify the protocols that are used to allow the ports of the network cards to communicate.

- In the case of local installation on the target system, the Installation Manager displays the target system LAN adapters in this list. From this list, you must then select the LAN adapter that is to be activated on the target system.
- In a remote installation, the Installation Manager does not recognize the target system. In this case, you must make the LAN adapters of the target system known to the Installation Manager using the Add button. From this list, you must then select the LAN adapter that is to be activated on the target system.

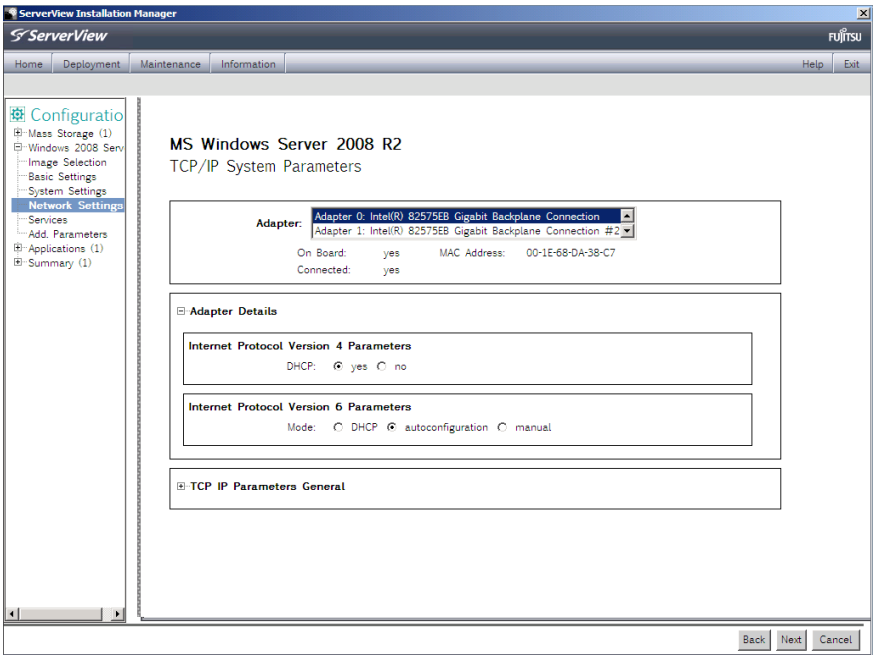


Figure 55: Installing Windows (customized): Configuring Ethernet settings

Adapter

In **Adapter**, the LAN adapters (network cards) present on the target system are displayed, or LAN adapters must be configured for the target system depending on whether the Installation Manager recognizes the target system:

- In the case of local installation on the target system, the Installation Manager displays the target system LAN adapters in this list. From this list, you must then select the LAN adapter that is to be activated on the target system.
- In a remote installation, the Installation Manager does not recognize the target system. In this case, you must make the LAN adapters of the target system known to the Installation Manager using the Add button. From this list, you must then select the LAN adapter that is to be activated on the target system.

If you configure more than one adapter, it is not possible to assign a logical adapter number directly to a physical slot number. This is only defined in the BIOS.

Remove

Deletes the selected adapter from the configuration.

Add

Includes a LAN adapter in the list.

Adapter Details

Here, you configure the TCP/IP settings for a new LAN adapter. The configured TCP/IP settings are shown here for a selected adapter that has already been configured in **Adapters**.

Internet Protocol Version 4 Parameters

Here you configure the Internet Protocol version 4 parameters (IPv4) of the selected LAN adapter.

DHCP

If you enable DHCP, the LAN adapter receives its IPv4 settings from a DHCP server on the network.

Yes

DHCP will be enabled.

No

DHCP will not be enabled.

Do not activate DHCP if there is no DHCP available on your network. Otherwise, the server will not boot because it cannot obtain an IP address.

The IPv4 parameters described below for configuring the selected LAN adapter will only be shown if **No** has been selected for **DHCP.**

IP Address
IPv4 address for the LAN adapter.

Subnet mask
Subnet mask for the LAN adapter. The subnet mask uses the IP address to assign a subnet to the LAN adapter.

Gateway
IP address of the default gateway/default router for the LAN.

Configure Additional IP Addresses
Here you can configure additional IP addresses (including subnet masks and default gateways/default routers).

IP addresses
To configure an IPv4 address, click on **Add**, enter the IPv4 address and the subnet mask in the dialog that appears, and then click on **OK** to confirm.

To remove an IPv4 address that has already been configured from the list, highlight the IPv4 address and then click on **Remove**.

Gateways
To configure a Gateway, click on **Add**, enter the IPv4 address of the Gateway in the dialog that appears, and then click on **OK** to confirm.

To remove a Gateway that has already been configured from the list, highlight the Gateway and then click on **Remove**.

Configure DNS Server
Configure the DNS server.

DNS Domain Name
Name of the default domain for queries to the DNS server or servers.

DNS Server
To configure a DNS server, click on **Add**, enter the IP address of the corresponding DNS server in the dialog that appears, and then click on **OK** to confirm.

To remove a DNS server that has already been configured from the list, highlight the server and then click on **Remove**.

Disable Dynamic Update

No dynamic updates. Dynamic updates are used to register and dynamically update the resource entries on DNS client computers after any change on a DNS server.

Enable "Adapter Domain Name Registration"

Domain registration for the adapter.

Configure WINS Server

Configure a WINS server. It is generally quite sufficient to configure one or at most two WINS servers.

WINS-Server

To configure a WINS server, click on **Add**, enter the IP address of the WINS server in the dialog that appears, and then click on **OK** to confirm.

To remove a WINS server that has already been configured from the list, highlight the server and then click on **Remove**.

NetBIOS Option

Activates / disables **NetBIOS over TCP/IP**. **NetBIOS over TCP/IP** is only required for the target system if the target system communicates with older operating systems or if it uses NetBIOS functions.

You can choose from the following options:

- Use NetBIOS settings from the DHCP server
  Default if DHCP has been enabled. If the LAN card on the target system uses DHCP, the DHCP options from the DHCPOffer message received are adopted to disable **NetBIOS over TCP/IP** or to activate and configure **NetBIOS over TCP/IP** depending on the configuration of the DHCP server.
- Enable NetBIOS over TCP/IP
  Default if DHCP has not been enabled. **NetBIOS over TCP/IP** is activated regardless of the DHCP options received.
- Disable NetBIOS over TCP/IP
  NetBIOS over TCP/IP is activated regardless of the DHCP options received.

Internet Protocol Version 6 Parameters

Here you configure the Internet Protocol version 6 parameters (IPv6) of the

selected LAN adapter.

Mode

Sets the mode to configure the LAN adapter.

DHCP

The LAN adapter receives its IPv6 settings from a DHCP server on the network.

Do not activate the DHCP mode if there is no DHCP available on your network.

Autoconfiguration

The target system opens an internet connection via the IPv6 autoconfiguration process. The target system communicates with the relevant routers in order to investigate the communication parameters.

Manual

Installation Manager explicitly requests the IPv6 parameters required for configuring the LAN adapter.

The IPv6 parameters described in the following for configuring the selected LAN adapter will only be displayed, if the **Manual** mode has been chosen.

IP Address

IPv6 address for the LAN adapter.

Length of Subnet Prefix

Length of the Subnet Prefix. The Subnet Prefix is composed of the Global Routing Prefix and the Subnet ID.

Configure Additional IP Addresses

Here you can configure additional IP addresses (including subnet masks and default gateways/default routers).

IP addresses

To configure an IPv6 address, click on **Add**, enter the IPv6 address and the subnet mask in the dialog that appears, and then click on **OK** to confirm.

To remove an IPv6 address that has already been configured from the list, highlight the IPv6 address and then click on **Remove**.

Configure DNS Server

Configure the DNS server.

DNS Domain Name

Name of the default domain for queries to the DNS server or servers.

DNS Server

To configure a DNS server, click on **Add**, enter the IP address of the corresponding DNS server in the dialog that appears, and then click on **OK** to confirm.

To remove a DNS server that has already been configured from the list, highlight the server and then click on **Remove**.

TCP/IP Parameters General

The security parameters for the TCP/IP configuration are shown here.

In these groups you can set the security options for the TCP/IP configuration of the target system (adapter enabled).

Domain name
Name of the default domain for queries to the DNS server or servers.

DNS Suffixes
This list shows the defined suffixes in the sequence in which the DNS servers are searched.

Remove
Deletes the selected suffix from the list.

Add
Opens the **DNS Suffix** dialog box, where you can add a new suffix to the list. Suffixes indicate a domain and are added to computer names, for example, *cswatcp.reskit.com*.

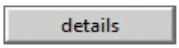
Enable "Domain name devolution"
The Microsoft DNS Caching Resolver uses Domain Name Devolution to resolve unqualified queries.

Enable "ICMP Redirect"
Overwriting of OSPF (Open Shortest Path First)-generated routes with ICMP (Internet Control Message Protocol) redirects is allowed.

Only enable this option if server routing or remote access services are to be installed on the target system.

6.3.3.5 Services

In this dialog box, you specify the services that you want Installation Manager to pre-install with the operating system.

Services indicated by the 

button can be configured.

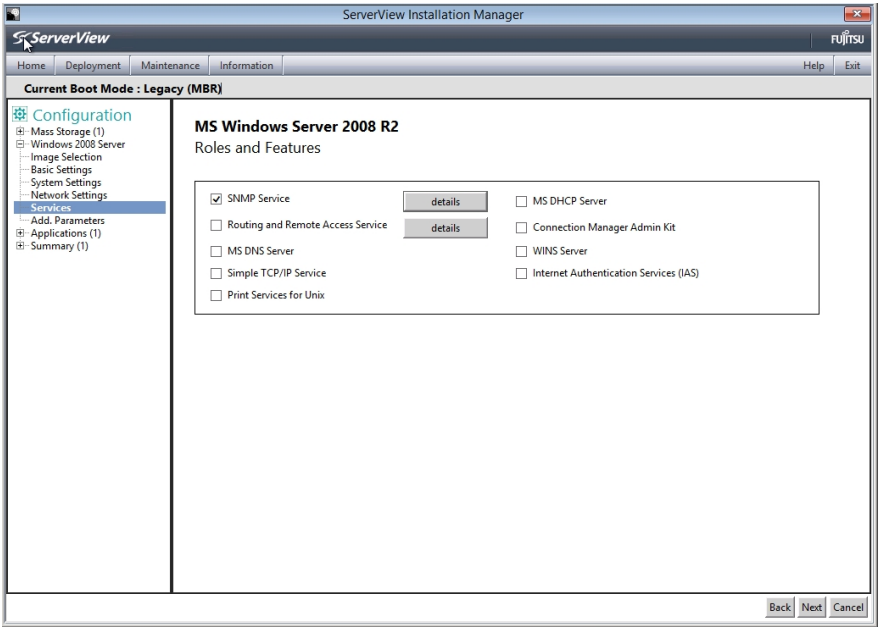


Figure 56: Installing Windows (customized): Selecting / Configuring services

SNMP Service
Installs the configurable SNMP service.

Trap Configuration Items

Here you specify the management stations to which you want the SNMP agent to send traps:

Community Name

Name of the community that is permitted to send SNMP queries to the target system. This name is a component of every SNMP message that the agent sends to the Management Platform. This setting is case-sensitive.

SNMP uses communities to control authorizations for read and write access by SNMP Manager to the monitored objects (MIB objects). A community name is included in every SNMP message, and identifies the sender of the message as a member of a given community. SNMP Manager and agents can only communicate if they belong to the same community.

Trap Destinations

This list shows the IP addresses of the computers to which SNMP messages are to be sent. You can choose **Add** to specify new addresses or **Remove** to delete addresses.

Security

Configures SNMP security for a community.

Accept Community Name

This list contains the community names from which the target system will accept messages. You must indicate the authorization for each community name: **none**, **read**, **read_write.**

Send Authentication Trap

If the agent on the target system rejects an SNMP request, it informs the requesting Management Platform via a trap.

SNMP requests from an unauthenticated community or computer are always rejected by SNMP agents.

Accept SNMP packets from the default source

SNMP packets are either accepted from **localhost** only (default) or from the host specified in the **Accept Host Name** field.

only read is the default setting. Change the right of the community to **read and write** because you cannnot change it using the ServerView Operations Manager e.g., with ASR.

Accept Host Name

The IP address or host name of the computer whose SNMP packets are to be accepted by the target system.

Agent

Information about the SNMP agent.

Contact Name

(Optional) The person who is in a position to help in the event of a problem (e.g. administrator).

Location

(Optional) Physical location of the target system

Services

SNMP services offered by the target system:

Physical

The target system manages physical devices (e.g. hard disks or disk drives).

Applications

The target system uses programs to send data via TCP/IP.

DataLink/Subnet

The target system manages a TCP/IP subnet or a data link (e.g. a bridge).

Internet

The target system is used as an IP gateway (router).

End-to-End

The target system is used as an IP host.

Routing and Remote Access Service
Defines which routing strategies are supported by the target system (RRAS server):

Router Type
Routing strategies that the target system (RRAS Server) supports:

RAS is supported
The target system supports RAS Routing.

LAN is supported
The target system supports LAN routing exclusively.

RAS and LAN are supported
The target system supports both RAS and LAN Routing.

WAN is supported
The target system supports WAN Routing.

RAS and WAN are supported
The target system supports both RAS and WAN Routing.

LAN and WAN are supported
The target system supports both LAN and WAN Routing.

RAS, LAN and WAN are supported
The target system supports RAS, LAN and WAN Routing.

6.3.3.6 Additional Parameters

In this dialog box, you configure the target system for remote support (remote assistance). Remote support is based on Windows Remote Desktop Technology and for example enables an expert to assist the administrator of the installed target system via a Remote Terminal Services Session.

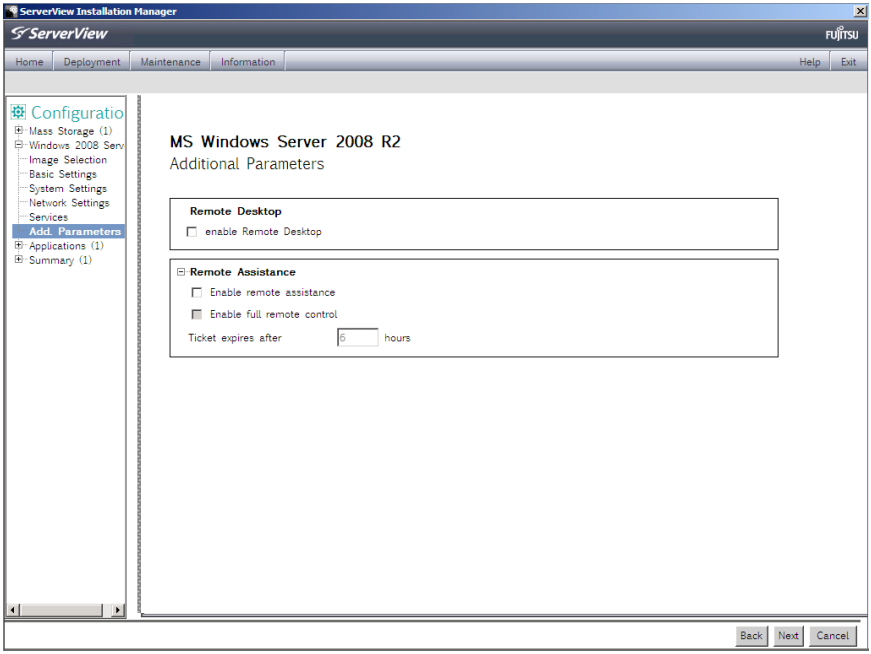


Figure 57: Installing Windows (customized): Configuring remote support

Remote Desktop

enable Remote Desktop

Allows access to the target system via the remote desktop program.

Remote Assistance

The following options allow you to define the qualitative scope and the duration of the remote assistance.

This function is not available in the core variants of the operating system.

Enable remote assistance

Enables remote assistance for the target system.

Enable full remote control

Remote support is given complete control of the local monitor on the target system. Otherwise, the local screen displays can only be passively observed via remote assistance.

Ticket expires after ... days

Validity period of the settings for remote assistance.

6.3.4 Selecting / configuring applications

In this dialog box you can select programs which Installation Manager is to install in addition to the operating system.

Installation Manager copies drivers and software packages directly to the installed system. This way, even users using another installation tool will be able to perform a reference installation.

If you have not selected **Japanese** in the region and the language dialog box, Japanese Software Packages are not provided.

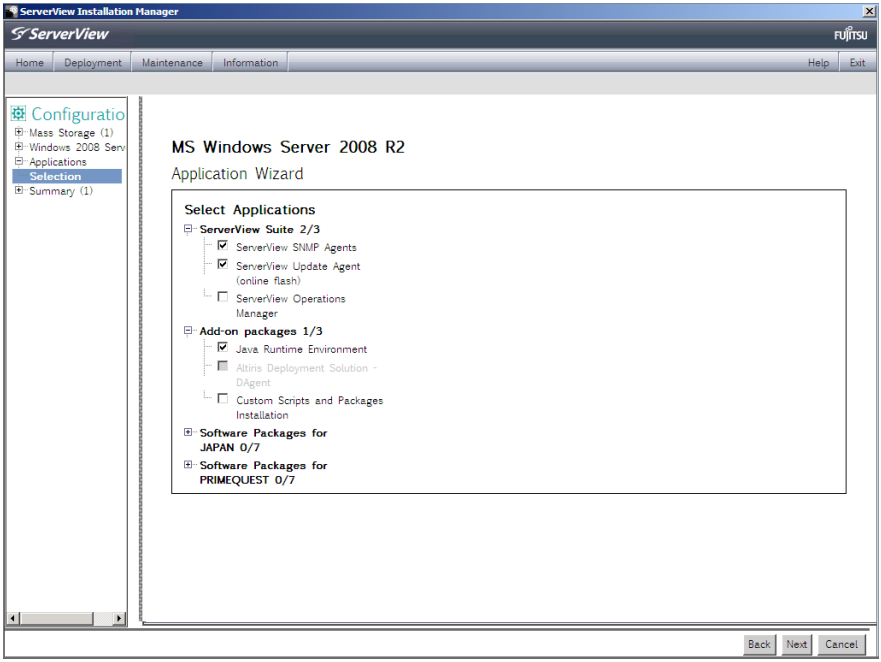


Figure 58: Installing Windows (customized): Selecting / configuring applications

Select Applications

Displays the groups of programs that can be selected.

Some packages may be preselected, depending on the following criteria:

- operating system
- operating system language
- hardware type of the PRIMERGY server
- recommendation of FUJITSU LTD and Fujitsu Technology Solutions

The **(n/n)** pair of numbers following each group name indicates how many programs (left number) are selected from the total number of programs available in the group (right number).

Clicking on a "+" symbol displays the list of programs that are available in the corresponding group.

Add-on Packages (n/n)
Additional software (e.g. Java Runtime Environment, customspecific scripts and packages)

ServerView Suite (n/n)
Components of the ServerView Suite

Software Packages for JAPAN (n/n)
Software offered for the Japanese market.

This package is only available for Japanese-language operating systems.

Software Packages for PRIMEQUEST (n/n)
Software available for PRIMEQUEST servers.

Some components of the package are only available for Japanese-language operating systems .

The dialog box is divided into two parts
When you select an option or click on a program name, the dialog box is divided into two parts:

- The programs available for selection continue to be displayed on the left.
- On the right, you will see the information about the selected application as well as the parameters required for the installation.

Depending on the Windows Server operating system and depending on the settings you configure using the configuration wizards, not all of the applications displayed may be selectable.

If an application requires the installation of another application
Some applications can only be installed if certain other applications are installed as well.

E.g. the installation of *ServerView Suite - ServerView RAIDManager* requires *Add-on packages - Java Runtime Environment* to be installed.

The **Information** area informs you about possible software dependencies.

If you select an application requiring the installation of another application which is not already selected, the following dialog box opens:

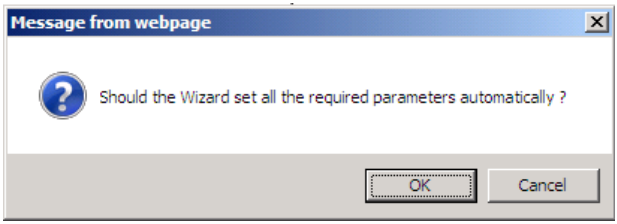


Figure 59: The Application wizard tries to set the required parameters automatically

OK

The Application wizard attempts to select the required application.

If the Application wizard succeeds, your selection remains. Otherwise, your selection will be reset.

Cancel

Resets your selection.

Details about the selected application are displayed on the right side

Description
A brief description of the selected option is displayed.

Settings for the selected application
(not available for every application)
Configures settings for the selected application.

Installation source
Defines where Installation Manager can find the installation files.

Local installation:

ServerView Suite DVD
Data packages of the Installation Manager on the ServerView Suite DVD 1.

Local removable media
Removable media on the target system.

Network share
Approved network drive.

Remote path
Path of the network drive in UNC notation in the form:

`\\<Server>\<Path>`, e.g. `\\myserver\directory`.

Remote user name
User account with the necessary privileges for the network drive. The account must be present on the computer that the URL references and which provides the resources. The user must have read privileges on the computer for the directory in the path specified above.

Remote Password
Password for the user account

Remote installation:

ServerView Installation Manager data packages
Data packages of the Installation Manager (on the deployment server) for remote installation.

Network share
Approved network drive.

Remote path
Path of the network drive in UNC notation in the form:

`\\<Server>\<Path>`, e.g. `\\myserver\directory`.

Remote user
User account with the necessary privileges for the network drive. The account must be present on the computer that the URL references and which provides the resources. The user must have read privileges on the computer for the directory in the path specified above.

Remote Password
Password for the user account

Information
Provides information about possible dependencies that are required for the installation of the selected program, e.g. certain services or applications must be installed at the same time.

6.3.5 Backing up the configuration / starting the installation

A summary of the parameters set is displayed. You can back up these parameters to a file and/or start the unattended installation on the basis of the configuration shown.

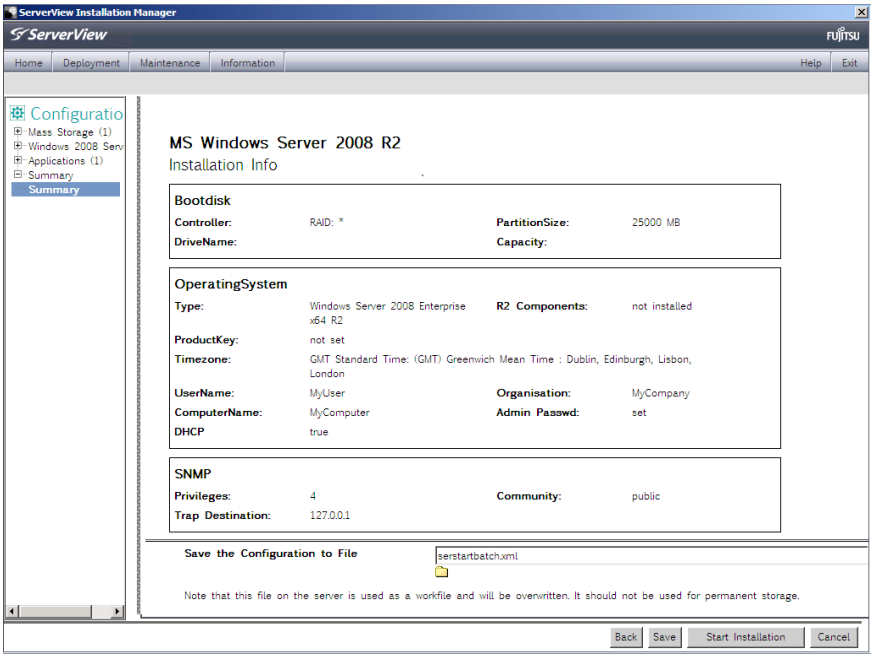


Figure 60: Installing Windows (customized): Backing up the configuration / starting the installation

Save configuration to file

Defines a name for the configuration file (default name: *serstartbatch.xml)*, in which the configured parameters are saved.

Click the folder icon to define a name for the configuration file. A dialog box is displayed.

- You can specify the file name (default name: *serstartbatch.xml*). You can overwrite this default name with any name of your choice.
- You can select or create a folder in which Installation Manager will store the configuration file. The folder is stored as follows:
  - *Local installation* (**customized** mode only):
    The folder is stored on the local backup medium.
  - *Remote installation*:
    The folder is stored within the **configfiles** directory of the Installation Manager repository.

You should not use the default name for long-term backup of the configuration data.

For local installation on the target system:

The configuration can only be stored in *customized* mode.

The configuration file is created as a temporary file for the current Installation Manager process and is no longer available for future starts of the Installation Manager.

To save the configuration file permanently, you can save it to an external medium (e.g. memory stick).

Save

Backs up the configured parameters in the file that you have specified in the **Save the Configuration to File** dialog.

The unattended installation is not started.

Start Installation

Starts unattended installation of the operating system and backs up the configured parameters in the file you have specified in the **Save the Configuration to File ...** dialog.

For details of how to launch a PXE-based remote installation, refer to section "Launching the PXE-based remote installation / system configuration" on page 124).

If you have selected a local drive as the source device, Installation Manager will ask you to insert the required medium (CD/DVD). In this case, insert the medium and click on **OK**.

If you are using an external backup medium (USB stick), note:

- Do not remove the medium. Otherwise, the automatic installation process may be stopped (e.g. while installing Windows Server 2008, x64 Edition).
- If you use Installation Manager version < 10.09.10 for installation of Windows Server 2008, x64 Edition, a dialog box **Select save location for the configuration file** will be displayed after the reboot of the target system.

In this case proceed as follows:

1. Select the **local drive** option and choose the external backup medium.
2. Click on **Next** to continue with the installation.

After the PXE-based installation is launched, the target system is rebooted. Then before the operating system installation starts, the hardware of the target system is configured.

During the unattended installation the target system may reboot several times.

You can keep informed about the progress and status of a remote installation using the Installation Monitor (see chapter "Installation Monitor - Monitoring remote installation" on page 245).

7 Configuring Linux and VMware ESX/ESXi and starting the installation

When you configure the unattended installation of a Linux or VMWare ESX/ESXi operating system, the Installation Manager's wizard guides you through each configuration step. Or, you can activate the individual configuation steps directly and thus determine the sequence of the steps yourself.

The configuration steps are described here in the order they are presented in the wizard.

7.1 User interface

The structure of the wizard's user interface is uniform:

- In the left area, click on the appropriate link in the tree structure to select a configuration step directly.
- The parameters of the current configuration step will be displayed in the right area.

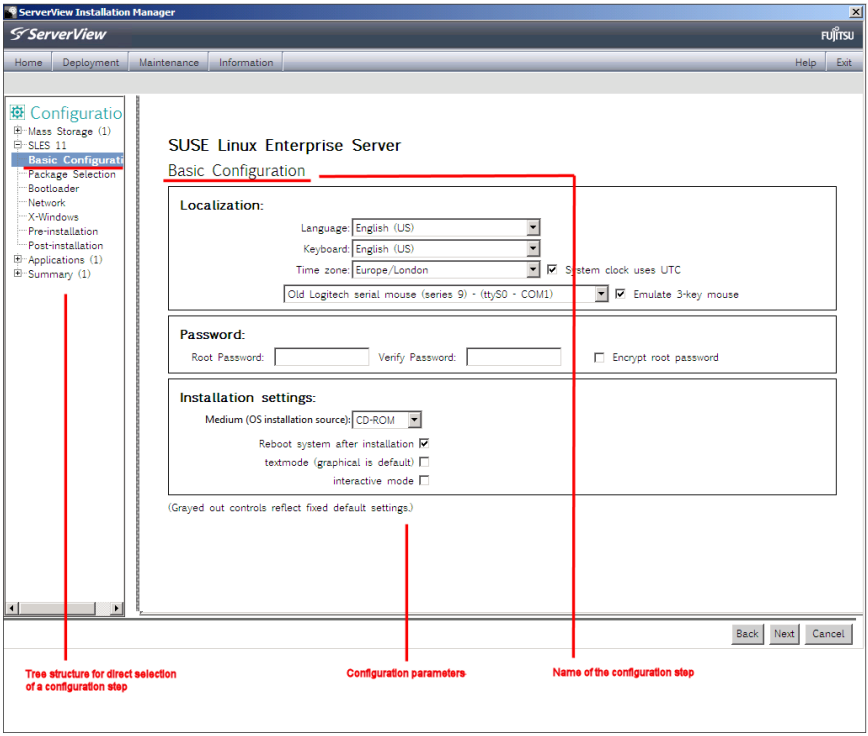


Figure 61: User interface for configuring the unattended installation

Next

Click on **Next** to go to the next configuration step.

Back

Click on **Back** to return to the previous configuration step.

Cancel

Click on **Cancel** to stop configuring in the current wizard.

7.2 Installing Linux / VMware ESX/ESXi (typical)

In detail, configuring a typical Linux installation includes the following steps:

- Configure hard disks/RAID controllers using the RAID / Disk wizard.
- Configure installation of the Linux operating system.
- Configure the installation of applications.

Prerequisites:

1. You must have started Installation Manager on the target system and started the local deployment.
2. You must have selected "Typical" installation mode in the **Installation Manager Deployment Process** window.
3. You must have selected the operating system, operating system variant, and the service pack in the **initial window** of the unattended installation configuration.
4. You must have made additional settings before clicking on **Next**.

7.2.1 Configuring Disks and RAID Controllers (typical)

In this dialog box, you configure disks and RAID controllers.

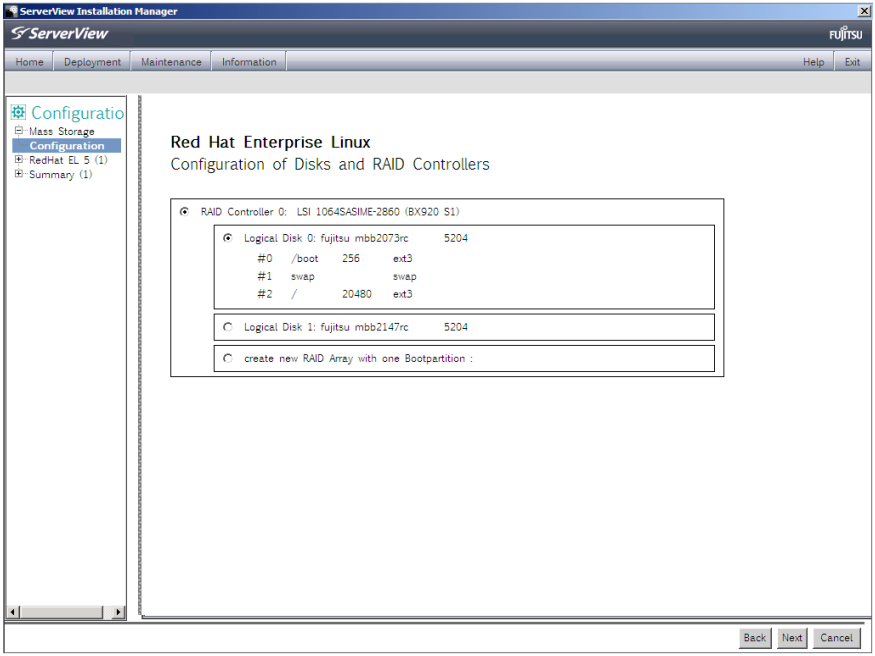


Figure 62: Installing Linux / VMware (typical): Configuring disks and RAID controllers

RAID Controller

Displays the RAID controller(s) that have been detected in the system.

Logical Disk 0

Uses the existing RAID array and does not change the configuration of the RAID controller selected. In this case you only determine the size of the boot partition.

Create new RAID Array with one boot partition

Configures a new RAID array on the selected RAID controller. Every existing RAID configuration of this controller will be cleared.

RAID Level

Determines the level of data security.

The RAID level depends on the underlying controller's capabilities and the number of connected hard disk drives. You only see the RAID levels that can be configured.

automatic

Configures the RAID array across all existing disks. The abilities of the RAID controller and the number of disks attached determine the RAID level if the controller supports this level:

- One disk: JBOD
- Two disks: RAID 1
- Three disks: RAID 5 (if the controller supports level 5)
- More than three disks: RAID 5 with recovery in the event of disk failure

RAID 0

Striping (no redundancy): Data reconstruction is not possible. If a hard disk fails, the data on that hard disk is lost.

RAID 1

Mirroring: If a hard disk fails and is replaced, its data is reconstructed automatically (rebuild). If an additional hard disk is available as a standby disk (see the "Hotspare" option), it is automatically activated as a replacement for the defective disk, and the data from the defective disk is reconstructed on this standby disk (rebuild).

RAID 5

Distributed parity information: If a hard disk fails and is replaced, its data is reconstructed automatically (rebuild). If an additional hard disk is available as a standby disk, it is automatically activated as a replacement for the defective disk. The data from the defective disk is reconstructed on this standby disk (rebuild).

RAID 6

Similar to RAID 5, but considerably faster.

RAID 10

Comprises a combination of striping and mirroring. Faster than RAID 1, but includes redundancy, unlike RAID 0.

Size Boot Partition

Specifies the size of the boot partition.

Minimum

Specifies 25 000 MB as minimum size of the boot partition.

Whole Disk

Specifies the whole disk for the boot partition.

Manually

Uses the specified size for the boot partition.

7.2.2 Configuring Linux / VMware ESX/ESXi settings

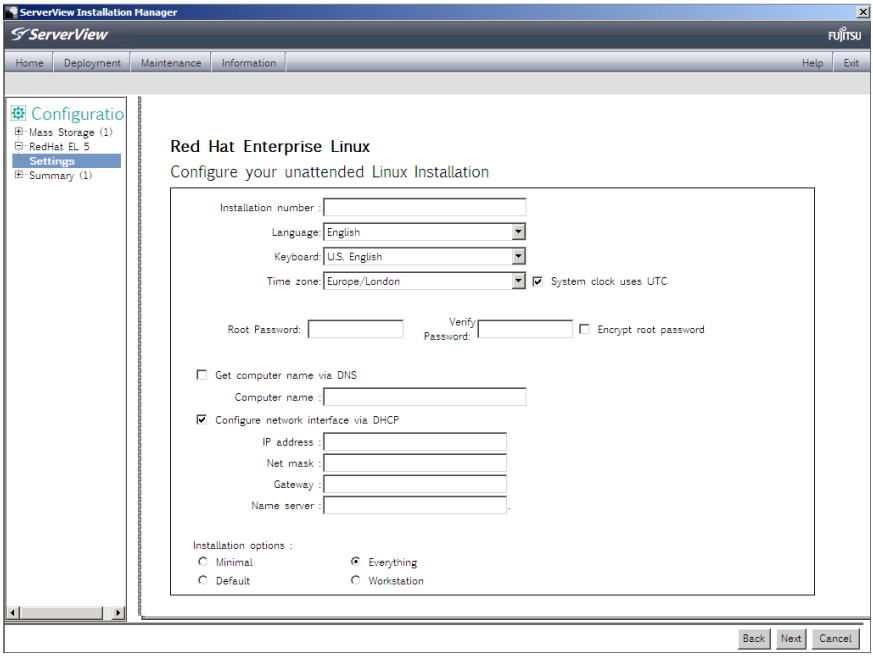


Figure 63: Installing Linux/VMware (typical): Configuring operating system settings

Installation number (only for Red Hat Linux 5)

Enter the installation number. The scope of function for the distribution will be defined precisely on the basis of the installation number.

Language

Language for the target system.

Keyboard

Keyboard type of the target system.

Time Zone

Time zone of the operating system on the target system.

The system clock uses UTC
Specifies that the system clock on the target system is to use Universal Time Coordinated (UTC). This option is set by default.

Additional languages (only for Red Hat Linux 4)
Installs additional languages from the language group.

Root Password / Verify Password
Enter and reenter the root password.

Encrypt root password
When it is entered, the root password is encrypted and sent to the target system in encrypted form.

Get computer name via DNS
The target system retrieves the computer name from a DNS server.

Do not choose this option unless a DNS server is available on the target system's network.

Computer name
Name of the target system.

Configure the network interface via DHCP
The target system retrieves its IP address and additional configuration parameters from a DHCP server.

Do not choose this option unless a DHCP server is available on the target system's network.

If you deselect this option, you have to configure the parameters for the static IP configuration.

IP Address
IP address of the selected LAN adapter.

Net mask
Subnet mask for the selected adapter. The subnet mask uses the IP address to assign a subnet to the LAN adapter.

Gateway
IP address of the default gateway/default router for the target system's LAN.

Name server
IP or name of the DNS server in the target system's LAN.

Installation Options
Selects packages for the installation.

Minimal
Default for VMware ESX/ESXi.

Only the packages that are absolutely essential for the system to run are installed. Additional packages can be installed "manually" afterwards, when the system is running.

Everything
Default for Red Hat Enterprise Linux 5.

All packages will be installed.

Default
Installation with focus on server.

Workstation
Installation with focus on workstation.

7.2.3 Backing up the configuration / starting the installation

This step shows the parameters that have been configured. You can back up these parameters to a file and/or start the unattended installation on the basis of the configuration shown.

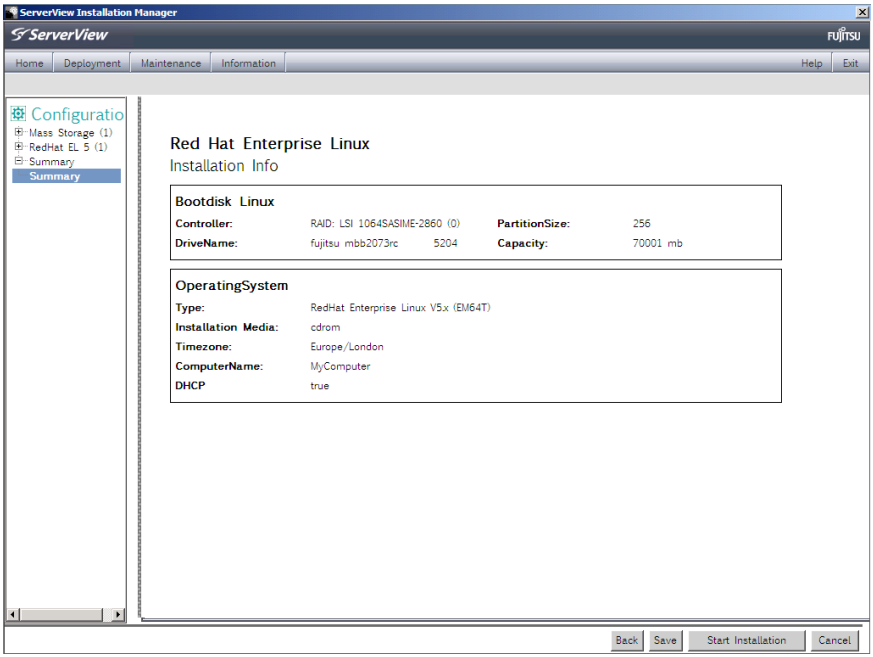


Figure 64: Backing up configuration / Starting installation

Save

Saves the configured parameters in the temporary file *SerStartBatch.xml*. The unattended installation is not started.

If you have provided an external backup medium (e.g. USB memory stick), the configuration file is saved on that medium.

Start Installation

Starts the unattended installation of the operating system.

7.3 Installing Linux (customized)

In detail, configuring a customized Linux installation includes the following steps:

- Specify the target system
- Configure general system behavior and remote management controller using the Server Configuration Manager (optional).
- Configure hard disks/RAID controllers using the RAID / Disk wizard.
- Configure installation of the Linux operating system.
- Configure the installation of applications.

Prerequisites:

1. You must have started Installation Manager and made the following specifications:
   - In the case of local installation:

   You must have selected **Customized** installation mode in the **Installation Manager Deployment Process**.
   - In the case of remote installation:

   In the configuration step **Select the Target System**, you must have configured the required information for the target system (MAC address of the LAN adapter that is to be used for communicating with the deployment server, PRIMERGY system type, etc.)
2. You must have selected the operating system, operating system variant, and the service pack in the **initial window** of the **unattended installation configuration**.
3. You must have made additional settings before clicking on **Next**.

7.3.1 Server Configuration Manager

The configuration steps for the Server Configuration Manager are only offered if you have enabled the **Edit Server Management Settings** option in the **initial window** for configuring the installation process.

The Server Configuration Manager offers a number of configuration steps, with which you configure additional settings for the target system besides configuring the installation process (see also section "Server Configuration Manager" on page 129).

7.3.2 Configuring disks and RAID controllers

In this step, you can configure hard disks and RAID controllers.

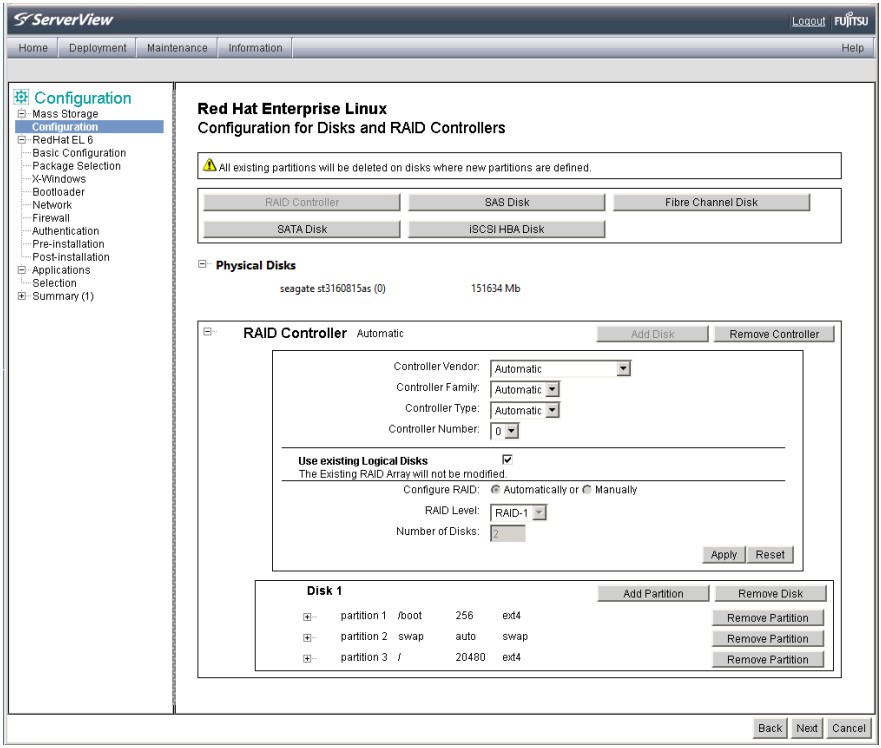


Figure 65: Configuring disks and RAID controllers

For instructions on configuring hard disks and RAID controllers, refer to section "Configuring mass storage devices" on page 130.

7.3.3 Configuring Linux / VMware ESX/ESXi

Various configuration steps are offered for configuring the operating system. The sequence of the configuration steps offered varies according to the operating system selected.

The following description follows the sequence of configuration steps for Red Hat Enterprise Linux 5.

- Basic Configuration
- Package Selection
- X Windows
- VMware ESX only: Virtual disk configuration
- VMware ESX/ESXi only: License options
- Grub Bootloader Options
- Network Configuration
- Security and Firewall
- Authentication
- Pre Installation Script
- Post Installation Script

7.3.3.1 Basic Configuration

In this dialog box, you define the basic parameters for installation on the target system.

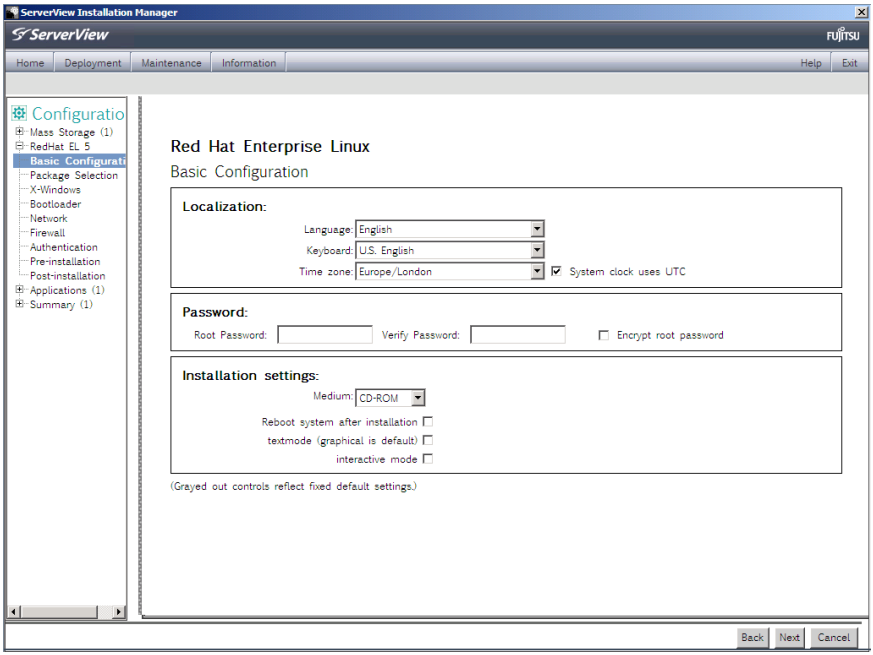


Figure 66: Installing Linux / VMware (customized): Basic configuration

Localization

Adapts the target system to suit regional requirements.

Language

Operating system language on the target system

Keyboard

Keyboard language

Time Zone
Time zone of the operating system on the target system.

System clock uses UTC
Specifies that the system clock is to use Coordinated Universal Time (UTC).

Mouse (SuSE only)
Configures the mouse type.

Emulate 3-key Mouse (SuSE only)
Emulates a mouse with three buttons. Select this option if a two-button mouse is to be used on the target system. If you click with both the left and right mouse button (on a two-button mouse) at the same time, the system will then interpret this as a click on the third button of a three-button mouse.

Password

Defines the password for the root ID.

Root Password / Verify Password
Password for root ID, which you must enter twice for security reasons.

Encrypt Root Password
Encrypts the root password as soon as it is entered. In other words, it is not buffered in a readable format.

Installation settings

Sets additional parameters for the installation.

Medium

Determines the location where Installation Manager can find the installation files:

CD-ROM

Local CD-ROM drive.

NFS

Network drive, which you define using the following parameters:

- **Server**: DNS name or IP address of the server that is to serve as an installation source (for example, a deployment server).
- **Directory**: Full path name of the directory containing the installation files.

FTP/HTTP

URL of the FTP or HTTP server.

Hard drive

Local disk, which you define using the following parameters:

- **Partition**: The partition containing the directory with the installation files.
- **Directory**: Full path name of the directory containing the installation files.

UNC (VMware ESXi only)

Network path in UNC (Uniform Naming Convention) notation allowing you to address resources that are located on another computer in the network:

- **Path**: Path of the network drive in UNC notation in the form: \\<Server>\<Path>, e.g. \\myserver\directory.
- **Remote User name**: User account with the necessary privileges for the network drive. The account must be present on the computer that the UNC path references and which provides the resources. The user must have read privileges on the computer for the directory in the path specified above.
- **Remote Password**: Password for the user account.

Reboot system after installation

Reboots the system after the installation. Kickstart normally displays a message and waits for a key to be pressed before restarting the target system.

Text mode (graphical is default)

Installs the target system in text mode rather than the default graphics mode.

Interactive mode

Installs the operating system in interactive mode, which means that you can change settings in the Kickstart file during the installation.

7.3.3.2 Package selection

In this dialog box, you specify which packages you want to install on the target system.

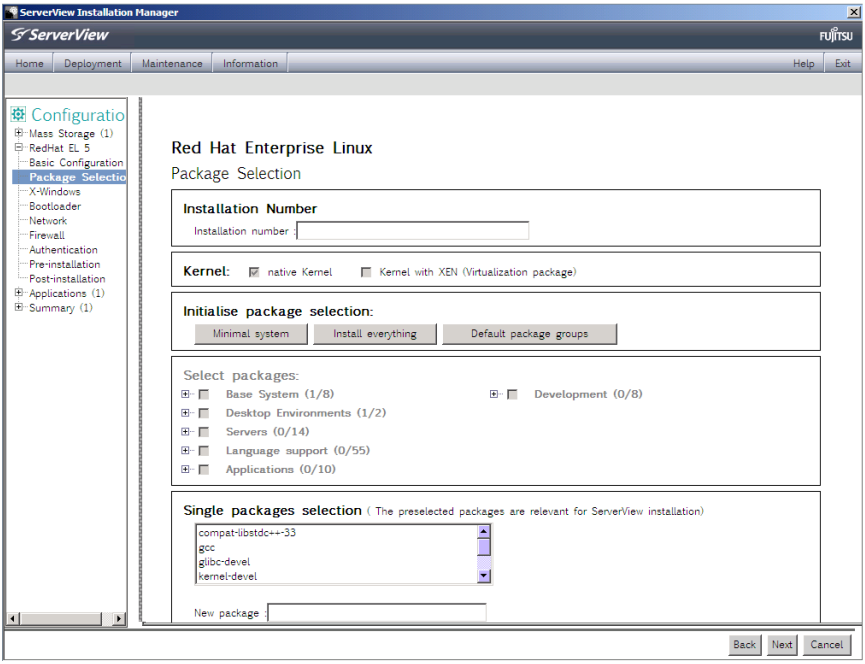


Figure 67: Installing Linux (customized): Selecting a package

Installation Number (Red Hat EL 5 only)

Defines the functional scope of the distribution via the installation number.

Kernel (not Red Hat EL 5)

Installs the standard (native) kernel.

Native Kernel

Installs the package for the native kernel.

Native Kernel with PAE (in case of x86)

Installs the package for the native kernel with PAE.

Kernel with XEN (package virtualization)

Installs the package for the kernel with XEN for virtualization. This package is required to reboot the XEN kernel (see Boot Loader).

Initialize package selection

You can use the relevant buttons to pre select packages for installation. The corresponding number of active packages is displayed during package selection.

Minimal system

Selects all installation packages required for the minimal operating system.

Install everything

Selects all installation packages.

Default package groups

Package groups recommended by Fujitsu Technology Solutions.

Select packages

Provides a logically grouped display of all installation packages. The packages you pre selected using the buttons provided are displayed as active. You can modify this pre selection to suit your requirements, i.e. add or remove packages as required.

For Red Hat EL5:
Only changeable, if you entered a valid **Installation Number**.

Single packages selection

List of additional installation packages.

New package

Enter the name of the installation package that you want to add to the list by clicking on **Add**.

Remove

Deletes the selected installation package from the list.

Remove all

Deletes all installation packages from the list.

7.3.3.3 Configuring the X Windows System (for Red Hat and SuSE only)

In this dialog box, you configure the X Windows System.

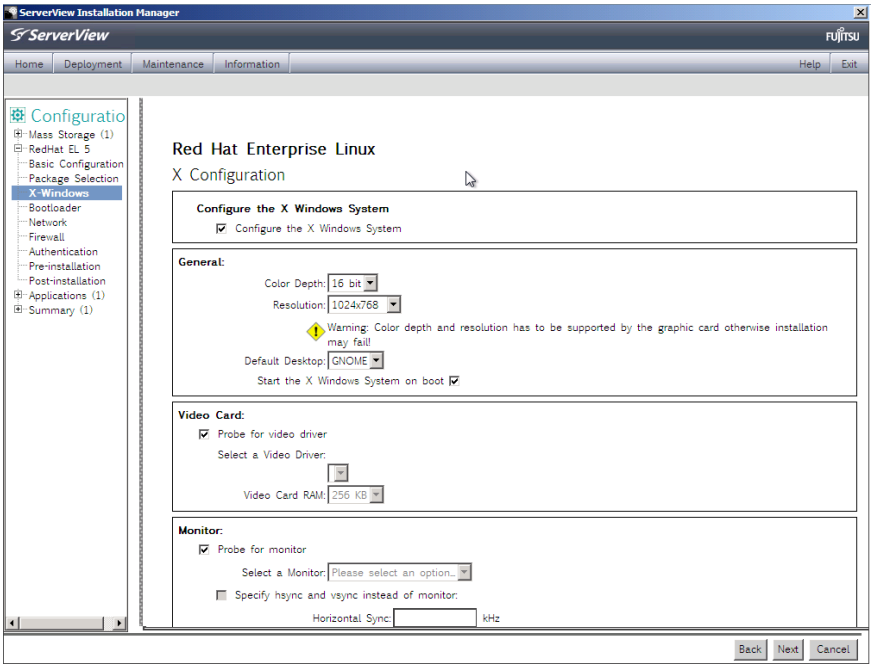


Figure 68: Installing Linux (customized): Configuring the X Windows System

Configure the X Windows System

Enables the configuration of the X Windows System. If you do not select this option, all subsequent options are disabled.

The X Windows System installation package must be selected (for Red Hat EL 4).

General

Display options.

Color Depth

Color depth for the X Windows System. The color depth must be compatible with the graphics card and the monitor.

Resolution

Resolution for the X Windows System on the target system. The resolution must be compatible with the graphics card and the monitor.

Default Desktop

Defines the default desktop. The required parameters must be selected:

- **GNOME**
- **KDE**
- **None**

Start the X Windows System on boot

Specifies that the target system is to use a graphical logon screen.

Video Card

Determines the video card type.

Probe for video driver

Determines the video card type automatically. The installation program searches the PCI bus for the card in this case. The search sequence is defined by the PCI scan sequence of the motherboard.

If you select this option, the following two options are disabled.

Select a Video Driver

Uses the specified card. The card name must be contained in the card list in `/usr/share/hwdata/Cards` in the `hwdata` package.

Video Card RAM

Defines the memory on the video card.

Monitor

Determines the monitor type.

Probe for Monitor

Determines the monitor type automatically. If you select this option, all subsequent options are disabled.

Select a Monitor

Uses the specified monitor. The monitor name must be contained in the monitor list in `/usr/share/hwdata/MonitorsDB` in the `hwdata` package. This option is ignored if you select the **Specify hsync and vsync instead of a monitor** option.

Specify hsync and vsync instead of monitor

Enables the options for horizontal and vertical refresh rates.

Horizontal Sync (kHz)

Specifies the horizontal refresh rate for the monitor.

Vertical Sync (Hz)

Specifies the vertical refresh rate for the monitor.

7.3.3.4 VMware License Options (VMware ESX/ESXi only)

In this dialog box, you specify the type of licensing that applies in this case.

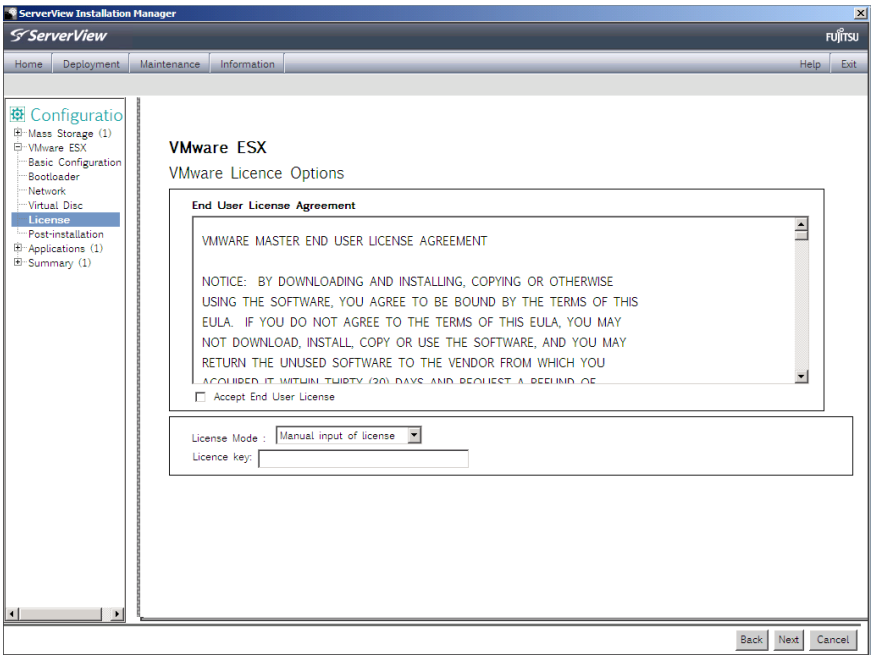


Figure 69: VMware ESX/ESXi installation (customized): Configuring VMware license options

End User License Agreement

The license agreement is displayed here.

Accept End User License

Confirms the license agreement.

License Mode

Defines the license type.

Use license server

The licenses for multiple users are managed using a license server.

Manual input of license

The individual license for the target system, which you enter in the input field.

Manual after installation

The individual license for the target system, which you enter after the installation.

7.3.3.5 Grub bootloader options / mount options

In this dialog box, you can configure the installation of GRUB for the multiboot capability of your target system.

In the case of SUSE Linux Enterprise Server (SLES 11), you can additionally specify **Mount Options**.

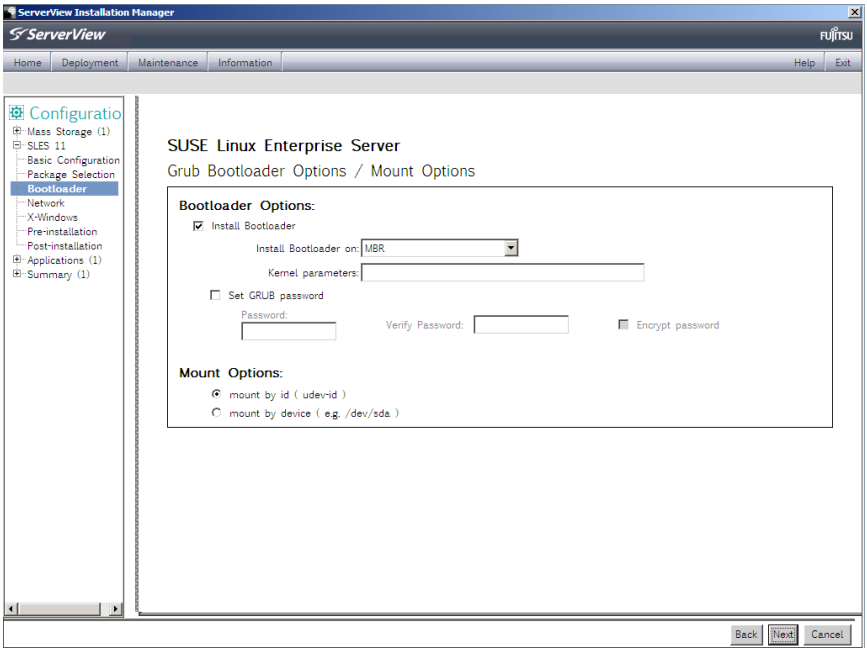


Figure 70: Installing Linux / VMware (customized): Configuring bootloader options

Bootloader Options
Configures the installation of GRUB for the multiboot capability of your target system.

Install bootloader
Specifies that Boot Manager is to be installed. If you deselect this option, all associated options are disabled.

Install bootloader on
Specifies where Boot Manager is to be installed:

MBR
Installs Boot Manager in the MBR. This is the default setting.

First sector of boot partition
Installs Boot Manager in the first sector of the partition, which contains the kernel.

Kernel parameters
Additional parameters for the kernel command line.

Boot XEN kernel as default (Not Red Hat EL 4 and VMware)
Restarts the XEN kernel. In this case the XEN hypervisor is installed so that the target system provides a XEN-based virtualization environment.

To use this option you have to select the XEN kernel from the installation packages.

Set GRUB password
Specifies that a password is required for GRUB Boot Manager. If you do not select this option, all subsequent options are disabled.

Password / Verify Password
Password for Boot Manager, which you must enter twice for security reasons.

Encrypt password

Encrypts the password as soon as it is entered. In other words, it is not buffered in a readable format.

Mount Options

Specifies whether the hard disk is to be mounted "by id" or "by device".
(For SLES 11 only)

CAUTION!

If a USB device is connected to the target system: As the device order may be changed during installation, the **mount by id (udev-id)** option is required in order to ensure successful installation of the operating system.

If you want to use ServerView Deployment Manager for deploying the operation system you must select the **mount by device** option. In this case, a USB device must not be connected to the target system.

mount by id (udev-id)

The hard disk is mounted "by device id".
Mounting devices by device ID has the advantage that device names are persistent.

The **udev** program is used by the Linux kernel for administrating the device files which manage the file input/output. As of Linux kernel version 2.6, udev replaces the formerly used devfs system.

mount by device (e.g. /dev/sda)

The hard disk is mounted "by device name".

7.3.3.6 Network configuration

In this dialog box, you configure the target system's network connection.

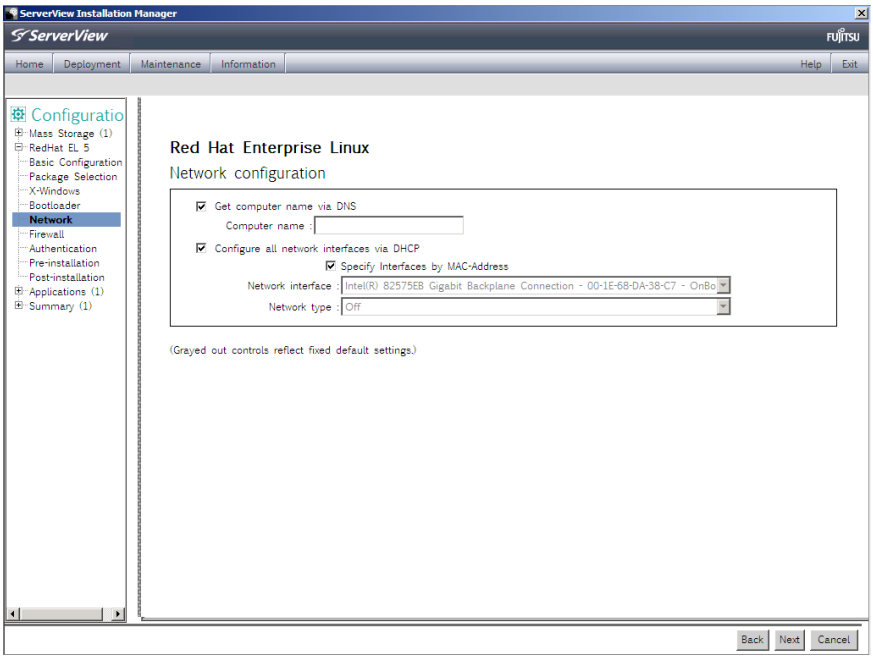


Figure 71: Installing Linux / VMware (customized): Network configuration

Configure standard network for VMs (VMware only)

Configures a standard network for VMware using a VM port group. Default setting

Use VLAN ID (VMware only)

Integer between 0 and 4095 as net ID of the VLAN.

Get computer name via DNS

Retrieves the computer name from the DNS server during the installation. If you do not select this option, enter the name of the target system directly.

Computer name

Name of the target system if you have not selected the **Request host name from DNS** option.

Configure all network interfaces via DHCP

Retrieves the IP configuration for all network connections from the DHCP server. This is the default setting for Red Hat and SuSE SLES. If you select this option, all subsequent parameters must also be set.

Specify Interfaces by MAC Address

Specifies the PXE boot device by using the MAC Address

Network interface

Port on the LAN card of the target system for which the **Network type** is valid.

Network type

Defines the IP configuration for the network connection.

DHCP

Retrieves the configuration parameters from the DHCP server.

Fixed IP

Configures a static IP address with the following parameters:

IP Address

IP address of the target system

Net mask

Subnet mask

Gateway

Default gateway

Name server

DNS server for name resolution

Off

No network is configured for the port selected at **Network interface**.

7.3.3.7 Security and Firewall (for Red Hat and SuSE only)

In this dialog box, you configure firewall protection as an additional security measure for your system. The firewall exists between the target system and the network and determines which target system resources are accessible to network users.

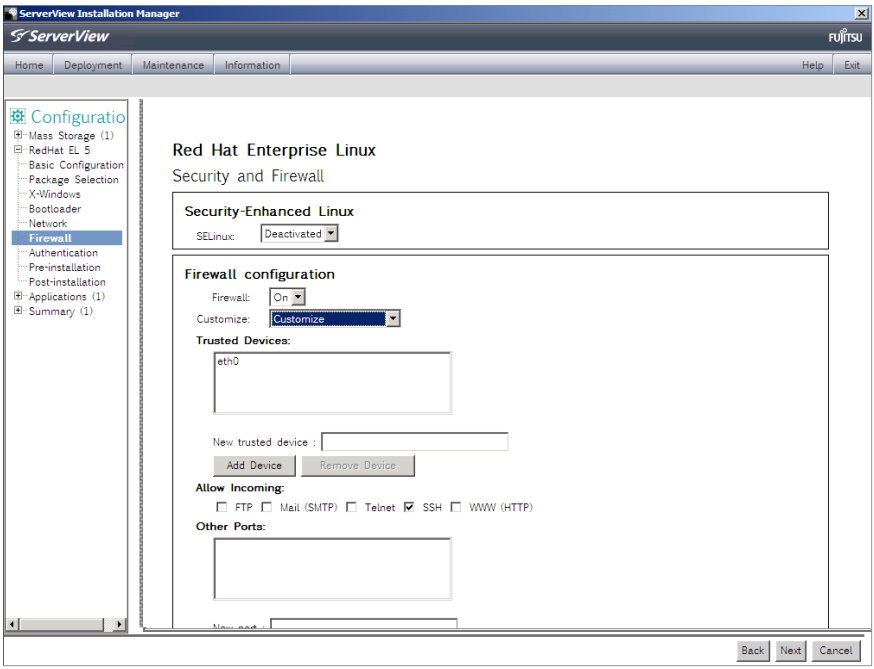


Figure 72: Installing Linux (customized): Configuring the firewall

Security Enhanced Linux

SELinux (Red Hat only)

Defines Security-Enhanced Linux mode. SEL serves as a supplement to the kernel that allows you to define stricter access controls for accessing certain resources.

Active

Enables SELinux and therefore enforces compliance with all security guidelines, such as the denial of access to certain files and programs by unauthorized users.

Warn

Provides notification when access is denied. The warning status assigns names to data and programs and logs these in the `/var/log/auditd` file, but does not enforce compliance with security guidelines.

Deactivated

SELinux is disabled.

Firewall Configuration

Firewall

Switches the firewall **on** or **off**. If you enable the firewall, your target system only accepts connections that you have explicitly defined (with the exception of the default settings).

Customize

Defines the rules governing the operation of the firewall.

Standard firewall rules

This setting only permits connections that respond to outgoing requests, such as DNS responses and DHCP requests.

Customize

Configures the adapters of the LAN card so that they can receive accesses via defined communication ports. Additional options are displayed for this purpose.

Trusted devices

List of the adapters that are to be monitored by the firewall.

New trusted device

An adapter, which you can create by choosing **Add Device**. Select **Remove Device** to delete an adapter from the list.

Allow incoming

Determines the protocol, and therefore the communication port, that will be admitted by the firewall.

FTP

FTP protocol if the target system is to be a public FTP server. The `vsftpd` package must be installed.

Mail (SMTP)

SMTP protocol if the target system is to be a public mail server.

Telnet

Telnet protocol for unencrypted remote logon to the target system. The `telnet-server` package must be installed.

SSH

SSH for encrypted logon to the target system. The `openssh-server` package must be installed with SSH tools.

WWW (HTTP)

HTTP and HTTPS protocols if the target system is to be a public web server. The `httpd` package must be installed.

Other ports

List of additional communication ports.

New port

A communication port, which you can create by choosing **Add Port**. Select **Remove Port** to delete a communication port from the list. Enter the port in the following format: `<port>:(tcp|udp)`

`<port>`: Name of the communication port or a port number.

7.3.3.8 Authentication

In this dialog box, you define the parameters for authentication.

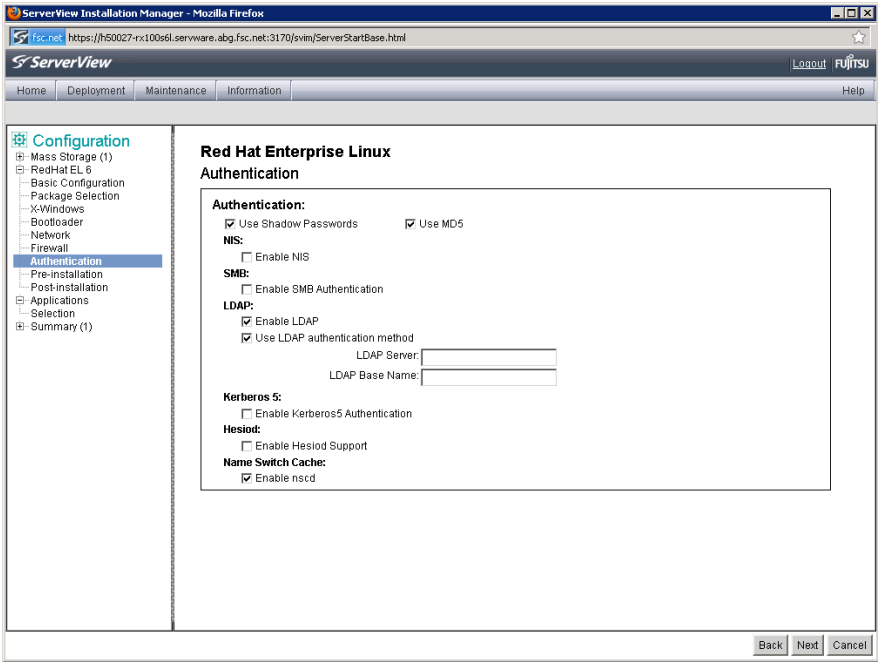


Figure 73: Installing Linux / VMware (customized): Configuring authentication

Use Shadow Passwords

Saves the passwords for the user accounts in a separate file. Default setting.

Use MD5

Encrypts the passwords with the MD5 algorithm. Default setting.

NIS:

Enable NIS

Activates NIS support. Linux uses every domain in the network as standard. You should therefore specify the relevant domain here.

NIS domain

Domain name used for the NIS service.

Use Broadcast to find NIS

Determines the NIS server using a general broadcast. Default setting.

SMB:

Enable SMB Authentication (Red Hat only)

Enables the authentication of users to an SMB server (typically a SAMBA or Windows server). SMB authentication support has no knowledge of home directories, user accounts or shells. The `pam_smb` package must be installed before you can use this option.

SMB server

Name of the server or servers for SMB authentication. Multiple servers must be separated by commas.

SMB Workgroup

Name of the workgroup for the SMB server.

LDAP:

Enable LDAP (Red Hat only)

Activates LDAP support in `/etc/nsswitch.conf`. The target system can determine information about users (user account, home directory, shell etc.) from an LDAP directory. The `nss_ldap` package must be installed before you can use this option.

LDAP server

Name of the LDAP server to be used. This option is set in the `/etc/ldap.conf` file.

LDAP Base Name

Distinguished name in the LDAP directory tree, under which the information is stored. This option is set in the `/etc/ldap.conf` file.

Use LDAP authentication method (Red Hat only)

Activates LDAP authentication in `/etc/nsswitch.conf`. The target system can determine information about users (user account, home directory, shell etc.) from an LDAP directory. The `nss_ldap` package must be installed before you can use this option.

LDAP server

Name of the LDAP server to be used. This option is set in the `/etc/ldap.conf` file.

LDAP Base Name

Distinguished name in the LDAP directory tree, under which the information is stored. This option is set in the `/etc/ldap.conf` file.

Kerberos 5:

Enable Kerberos5 Authentication (Red Hat only)

Activates Kerberos support. Kerberos itself is unable to call any home directories, user accounts or shells. If you enable Kerberos, you must also enable LDAP, NIS or Hesiod. The `pam_krb5` package must be installed before you can use this option.

Kerberos Realm

The realm to which the target system belongs.

Kerberos domain controller

KDC that processes the requests within this realm. Multiple KDCs must be separated by commas.

Kerberos Master Server

Master KDC on which `kadmind` is running. This master server processes password changes and other administrative tasks.

Hesiod:

Enable Hesiod Support (Red Hat only)

Activates Hesiod support for searching for home directories, user accounts and shells. For more information about installing and using Hesiod, refer to the `/usr/share/doc/glibc-2.x.x/README.hesiod` file in the `glibc` package. Hesiod is an extension of the DNS that provides information on users, groups and other data.

Hesiod LHS

Left-hand side option, which is set in the `/etc/hesiod.conf` file. The Hesiod library uses this option to determine the name that is to be searched in the DHS when information is queried. (The base DN is used the same way in the case of LDAP.)

Hesiod RHS

Right-hand side option, which is set in the `/etc/hesiod.conf` file. The Hesiod library uses this option to determine the name that is to be searched in the DHS when information is queried. (The base DN is used the same way in the case of LDAP.)

Name switch cache:

Enable nscd (Red Hat only)

Activates the nscd service. The nscd service caches information about users, groups and other data. This is useful if you want to distribute this information via NIS, LDAP or Hesiod. Default setting.

7.3.3.9 Pre Installation Script (for Red Hat and SuSE only)

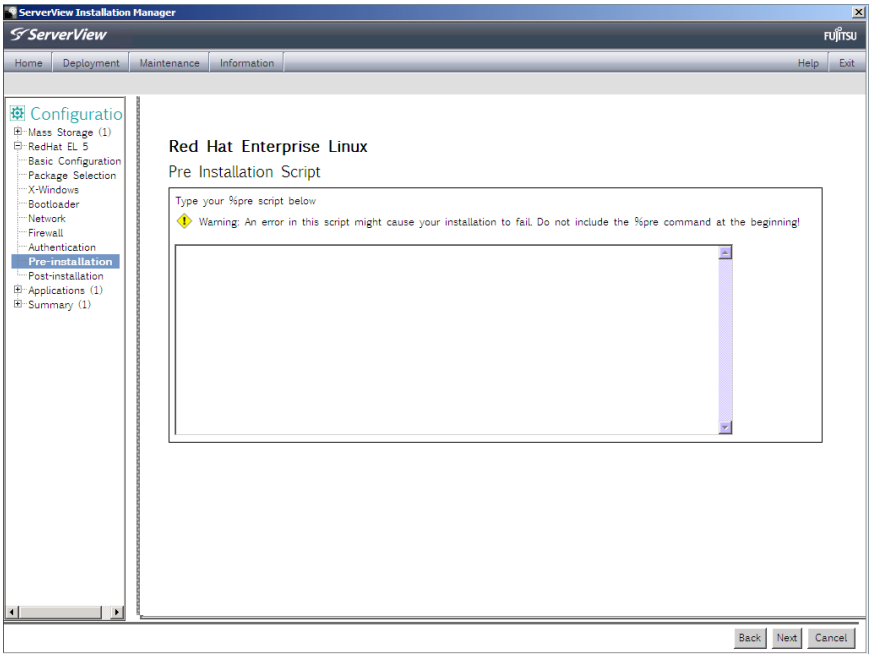


Figure 74: Installing Linux (customized): Entering a pre-installation script

In this dialog box, you can do the following:

- Enter direct scripting commands
- Specify a script that is available on the network

The `%pre` constant is not permitted. The script is executed before the Linux installation after the configuration file is read. Since the name server is still unknown at this point, you can only specify IP addresses to access a computer in the network.

7.3.3.10 Post Installation Script

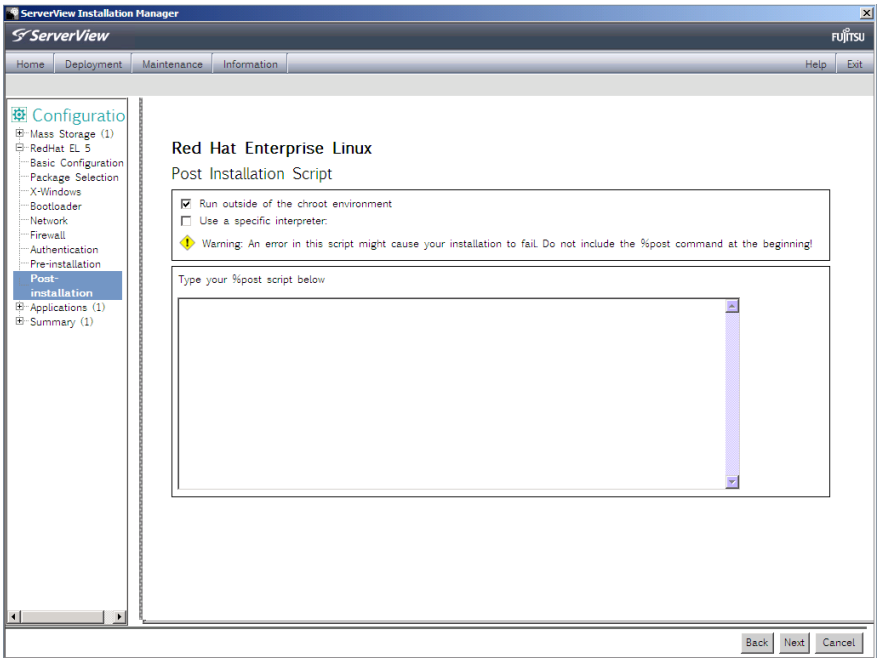


Figure 75: Installing Linux (customized): Entering a post-installation script

In this dialog box, you can do the following:

- Enter direct scripting commands
- Specify a script that is available on the network

The `%post` constant is not permitted. The script is executed after the Linux installation.

If the network operates with a static IP configuration, you can enter IP addresses for a network resource directly. In the case of a dynamic IP configuration (DHCP), the `/etc/resolv.conf` file is not yet complete when the script is executed. IP addresses cannot yet be resolved and you must therefore define these IP addresses here.

Run outside of the chroot environment

Disables the chroot environment, in which the scripts would otherwise be executed after the installation. It is then possible to copy scripts or RPMs from the installation medium.

Use a specific interpreter

Defines an interpreter for another script language (for example, Perl). This option is set by default.

Type your %post-script below

Enter the script here.

7.3.4 Selecting / configuring applications

In this step you can select programs which Installation Manager is to install in addition to the operating system.

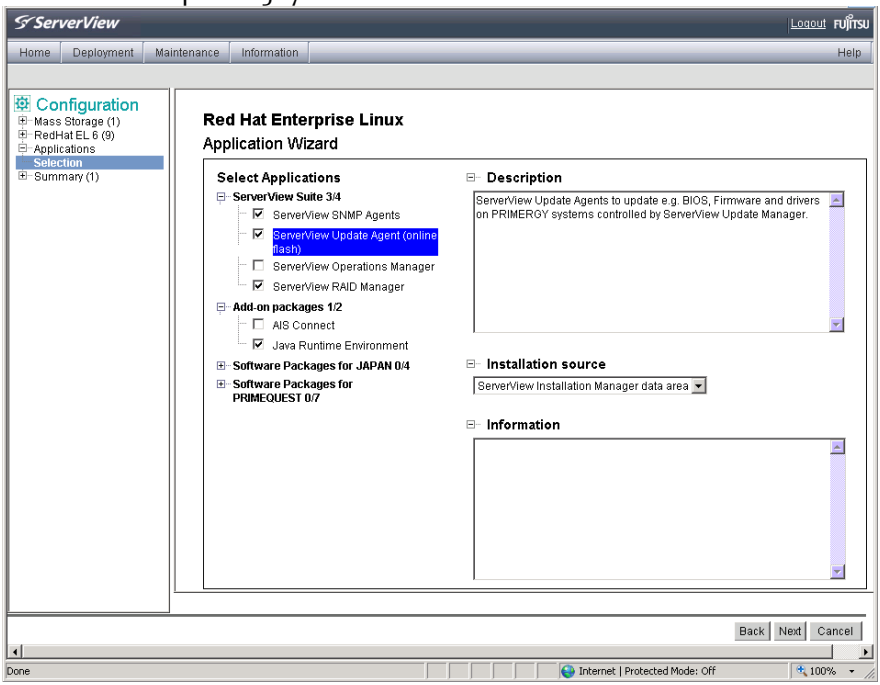


Figure 76: Installing Linux (customized): Selecting / configuring applications

Select Applications

Displays the groups of programs that can be selected.

Some packages may be preselected, depending on the following criteria:

- operating system
- operating system language
- hardware type of the PRIMERGY Server
- recommendation of FUJITSU LTD and Fujitsu Technology Solutions

The **(n/n)** pair of numbers following each group name indicates how many programs (left number) are selected from the total number of programs available in the group (right number).

Clicking on a "+" symbol displays the list of programs that are available in the corresponding group.

Add-on packages

Additional software (e.g. Java Runtime Environment, custom scripts and packages).

ServerView Suite (n/n)

Components of the ServerView Suite.

Software Packages for JAPAN (n/n)

(not for SLES 11)

Software offered for the Japanese market.

This package is only available for Japanese-language operating systems .

Software Packages for PRIMEQUEST (n/n)

(not for SLES 11)

Software available for PRIMEQUEST servers.

Some components of the package are only available for Japanese-language operating systems.

The dialog box is divided into two parts

When you select an option or click on a program name, the dialog box is divided into two parts:

- The programs available for selection continue to be displayed on the left.
- On the right, you will see the information about the selected application as well as the parameters required for the installation.

Depending on the Linux Distribution, not all the applications displayed may be selectable.

If an application requires the installation of another application

Some applications can only be installed if certain other applications are installed as well.

E.g. the installation of *ServerView Suite - ServerView RAIDManager* requires *Add-on packages - Java Runtime Environment* to be installed.

The **Information** field informs you about possible software dependencies.

If you select an application which requires the installation of another application which is not already selected, the following dialog box opens:

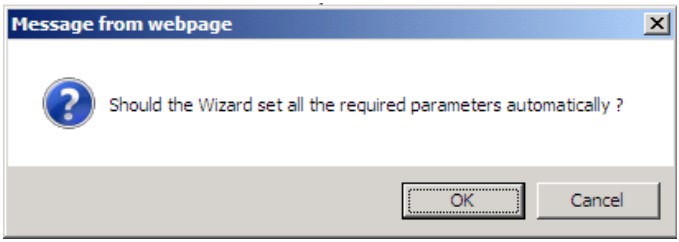


Figure 77: Application wizard tries to set the required parameters automatically

OK

The Application wizard attempts to select the required application.

If the Application wizard succeeds, your selection remains. Otherwise, your selection will be reset.

Cancel

Resets your selection.

Details about the selected application are displayed on the right side

Description

A brief description of the selected option is displayed.

Settings for the selected application

(not available for every application)
Configures settings for the selected application.

Installation source

Defines where Installation Manager can find the installation files.

Local installation:

Local removable media

Removable media on the target system.

ServerView Suite DVD

Data packages of the Installation Manager on the ServerView Suite DVD 1.

Network share

Approved network drive.

Remote path

Path of the network drive in UNC notation in the form:

\\<*Server*>\<*Path*>, e.g. *myserver**directory*.

Remote user name

User account with the necessary privileges for the network drive. The account must be present on the computer that the URL references and which provides the resources. The user must have read privileges on the computer for the directory in the path specified above.

Remote Password

Password for the user account

Remote installation:

ServerView Installation Manager data packages
Data packages of the Installation Manager (on the deployment server) for remote installation.

Network share
Approved network drive.

Remote path
Path of the network drive in UNC notation in the form:
\\<*Server*>\<*Path*>, e.g. *myserver**directory*.

Remote user
User account with the necessary privileges for the network drive. The account must be present on the computer that the URL references and which provides the resources. The user must have read privileges on the computer for the directory in the path specified above.

Remote Password
Password for the user account

Information

Provides information about possible dependencies that are required for the installation of the selected program, e.g. certain services or applications must be installed at the same time.

7.3.5 Backing up the configuration / starting the installation

A summary of the parameters set is displayed.

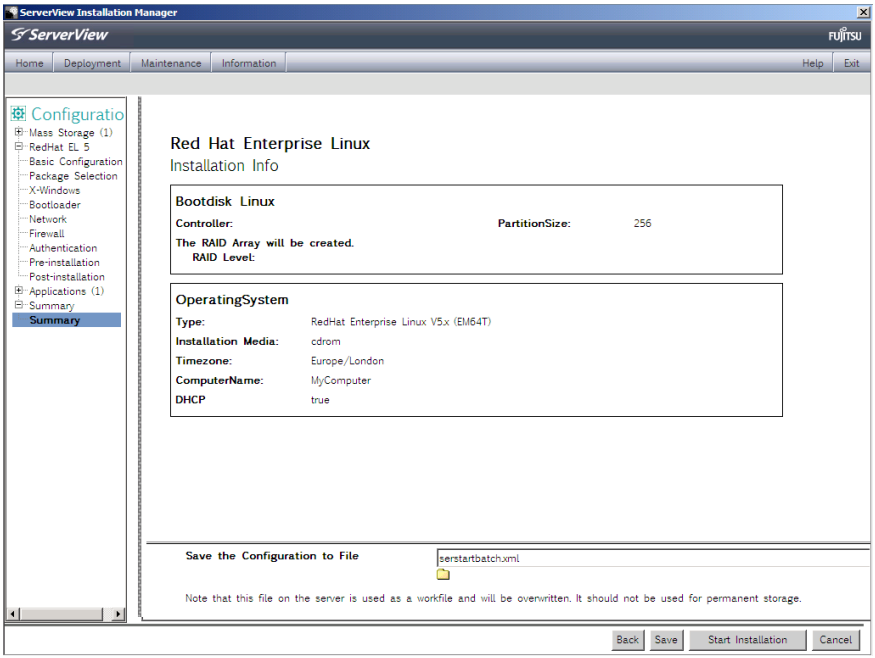


Figure 78: Installing Linux (customized): Backing up the configuration / starting the installation

Save configuration to file

Defines a name for the configuration file (default name: *serstartbatch.xml)*, in which the configured parameters are saved.

Click the folder icon to define a name for the configuration file. A dialog box is displayed.

- You can specify the file name (default name: *serstartbatch.xml*). You can overwrite this default name with any name of your choice.
- You can select or create a folder in which Installation Manager will store the configuration file. The folder is stored as follows:

- *Local installation* (**customized** mode only):
  The folder is stored on the local backup medium.
- *Remote installation*:
  The folder is stored within the **configfiles** directory of the Installation Manager repository.

You should not use the default name for long-term backup of the configuration data.

For local installation on the target system:

The configuration can only be stored in *customized* mode.

The configuration file is created as a temporary file for the current Installation Manager process and is no longer available for future starts of the Installation Manager.

To save the configuration file permanently, you can save it to an external medium (e.g. memory stick).

Save

Backs up the configured parameters in the file that you have specified in the **Save the Configuration to File** dialog.

The unattended installation is not started.

Start Installation

Starts unattended installation of the operating system and backs up the configured parameters in the file you have specified in the **Save the Configuration to File ...** dialog.

You can keep informed about the progress and status of the remote installation using the Installation Monitor.

8 Installation Monitor - Monitoring remote installation

The Installation Monitor informs you about the progress and state of remote installation processes which have been started. To start the Installation Monitor, click the **Installation Monitor** link under **Monitoring** in the Installation Manager welcome screen.

The Installation Monitor is started automatically after a remote installation has been started.

8.1 Graphical user interface of the Installation Monitor

The following figure shows the Installation Monitor window with two remote installations started.

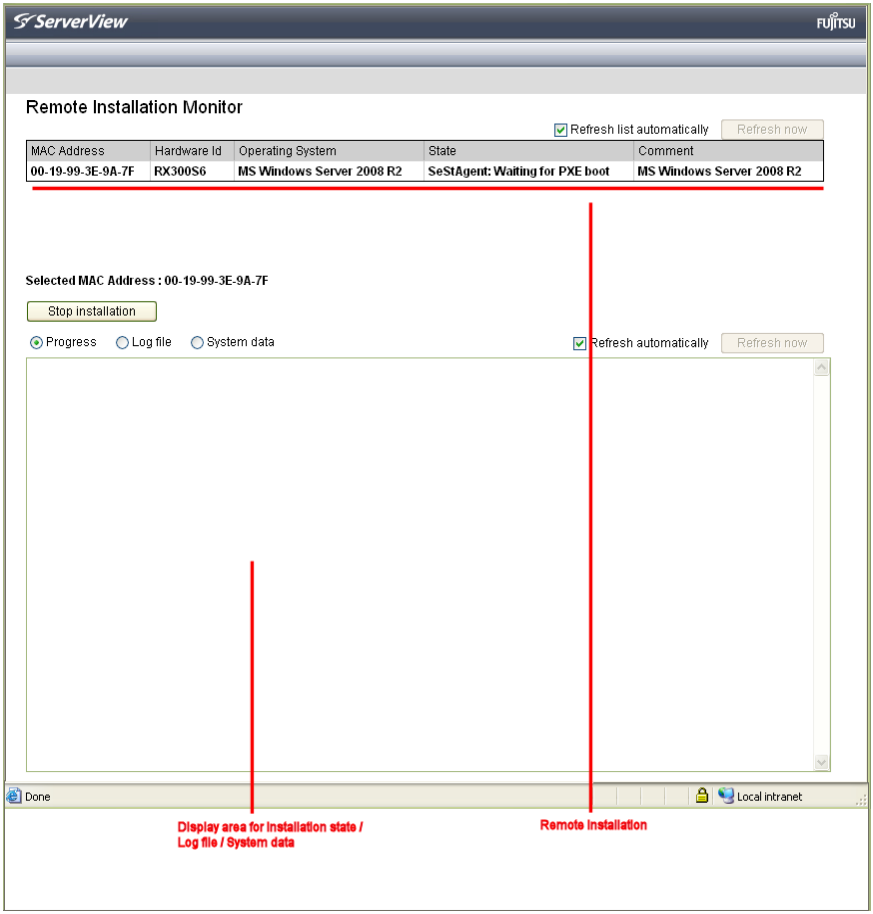


Figure 79: Installation Monitor window: Two remote installation processes have currently been started

Remote installations which have already been completed are also displayed, provided they are not explicitly removed from the list using **Stop Installation**.

Remote Installation Monitor

Tabular view of the remote installations which have currently been started.

The table is only displayed if at least one remote installation process has been started.

In each row the table displays the key figures for a started installation process which you defined when the process was configured, and also the current state of the installation:

MAC Address
MAC address of the LAN port (network card) on the target system via which the deployment server communicates with the target system during installation.

Hardware Id
PRIMERGY type of the target system.

Operating System
Operating system which is installed on the target system.

State
Current state of the installation process.

Comment
Information about the installation process.

Refresh now
If you deselect **Refresh list automatically**, you can refresh the display using the **Refresh now** button.

Refesh list automatically
When you select this option, the display of the started installation processes is refreshed automatically.

- Click the table row which represents the installation process about whose progress you want to be informed.

Selected MAC Address
Displays the MAC address of the installation process which you selected in the remote installation table.

Stop installation
Stops the selected installation process and removes the associated entry from the list.

Progress
Displays the progress of the selected installation process.

Log file
Displays logging information for the selected installation process.

System data
Displays the system data of the target system for the selected installation process.

Refesh list automatically
When you select this option, the information in the display area is refreshed automatically.

Refresh now
If you deselect **Refresh list automatically**, you can refresh the information in the display area using the **Refresh now** button.

8.2 Monitoring remote installation

The Installation Monitor lists all remote installation processes which have currently been started on the deployment server in a table. In addition to the configured characteristics (target system, operating system, etc.), the Installation Monitor also displays the current state of each process.

Installation started, PXE boot of the target system not yet performed
In the following figure the installation process for the target system with the MAC address CA-08-A9-03-C5-CE is selected for monitoring via the Installation Monitor.

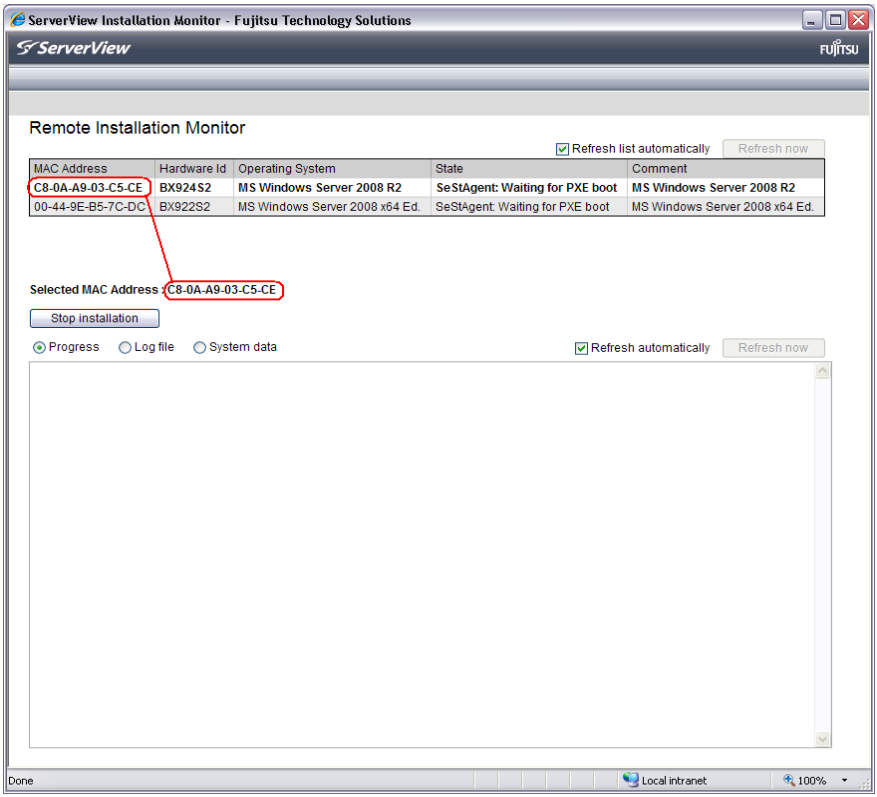


Figure 80: Installation Monitor: Installation started, but PXE boot of the target system not yet performed

As no PXE boot has yet been performed for the target system with the MAC address CA-08-A9-03-C5-CE, the associated installation process is in the state "SeStAgent: Waiting for PXE boot".

Installation started, PXE boot of the target system performed

The PXE boot for the target system with the MAC addressCA-08-A9-03-C5-CE has in the meantime been performed, which means that the installation process could begin installing the operating system (here: Windows Server 2008 R2) on the target system.

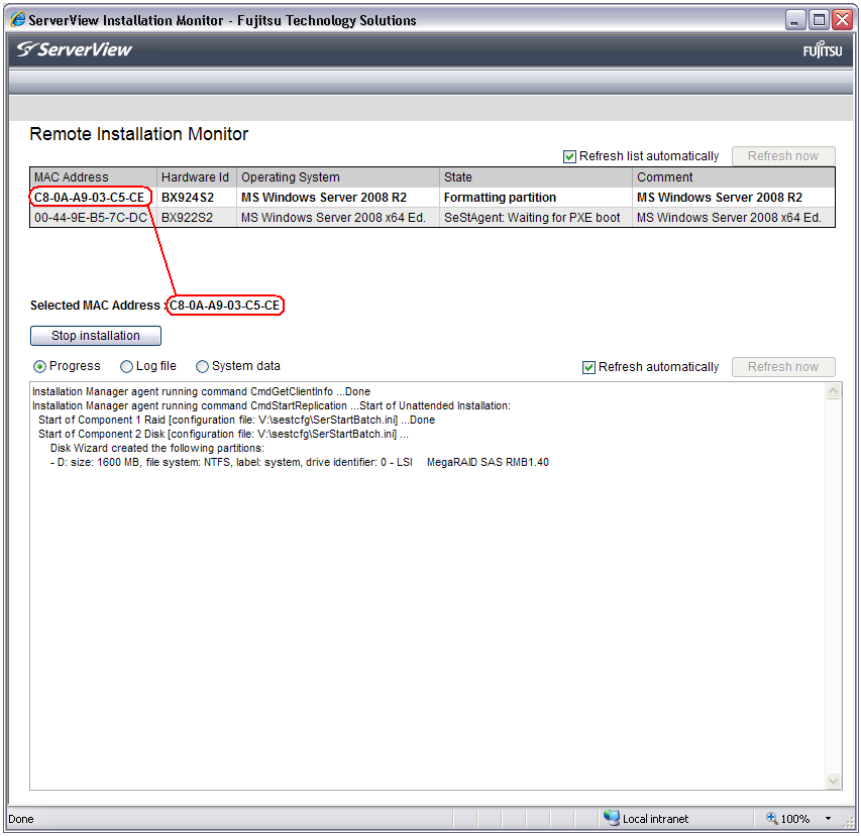


Figure 81: Installation Monitor: Operating system is installed on the target system

At the moment the installation process is in the state “SeSt: Create Partition”, i.e. the installation process creates a partition on the target system in accordance with the configured default values.

As the **Progress** option has been selected, the progress of the process is shown in the display area. In addition to the process step currently being executed, the process steps which have already been performed are documented.

Installation of the operating system on the target system has been successfully completed

Installation of the operating system (here: Windows Server 2008 R2) on the target system has been successfully completed.

As the **Progress** option is selected in the following figure, the progress of the process is shown in the display area. All the process steps which have been performed are documented.

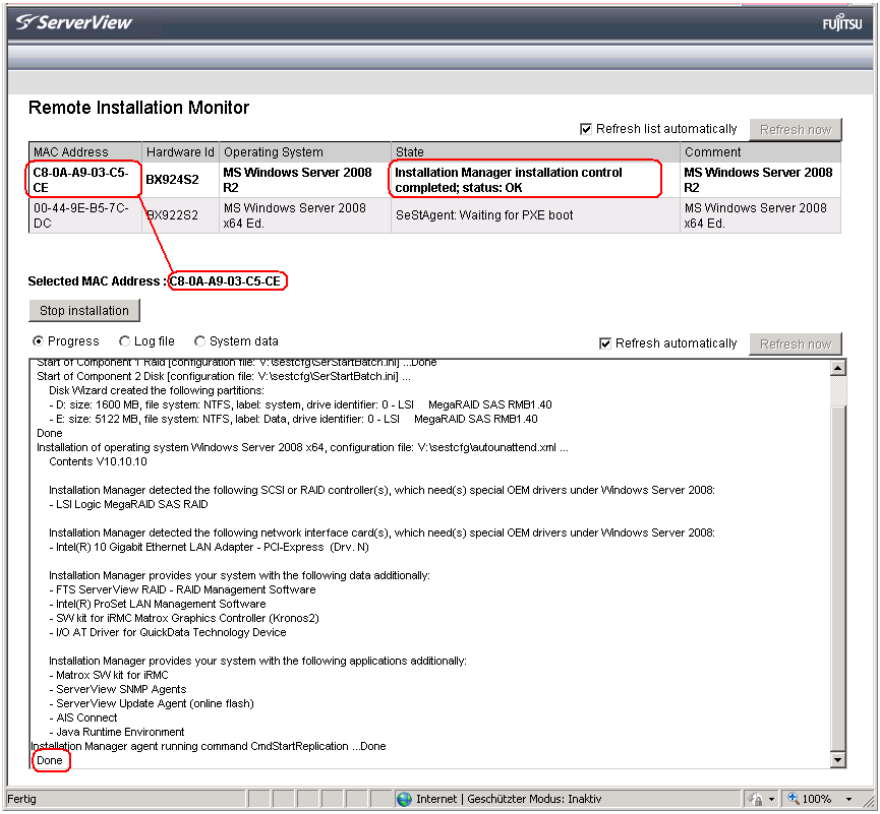

ServerView
FUJITSU
Remote Installation Monitor
Refresh list automatically
Refresh now
MAC Address
Hardware Id
Operating System
State
Comment
C8-0A-A9-03-C5-CE
BX924S2
MS Windows Server 2008 R2
Installation Manager installation control completed; status: OK
MS Windows Server 2008 R2
00-44-9E-B5-7C-DC
BX922S2
MS Windows Server 2008 x64 Ed.
SeStAgent: Waiting for PXE boot
MS Windows Server 2008 x64 Ed.
Selected MAC Address : C8-0A-A9-03-C5-CE
Stop installation
Progress
Log file
System data
Refresh automatically
Refresh now
Start of Component 2 Disk [configuration file: V:\sestcfg\SerStartBatch.ini] ...
Disk Wizard created the following partitions:
- D: size: 1600 MB, file system: NTFS, label: system, drive identifier: 0 - LSI MegaRAID SAS RMB1.40
- E: size: 5122 MB, file system: NTFS, label: Data, drive identifier: 0 - LSI MegaRAID SAS RMB1.40
Done
Installation of operating system Windows Server 2008 x64, configuration file: V:\sestcfg\autounattend.xml ...
Contents V10.10.10
Installation Manager detected the following SCSI or RAID controller(s), which need(s) special OEM drivers under Windows Server 2008:
- LSI Logic MegaRAID SAS RAID
Installation Manager detected the following network interface card(s), which need(s) special OEM drivers under Windows Server 2008:
- Intel(R) 10 Gigabit Ethernet LAN Adapter - PCI-Express (Drv. N)
Installation Manager provides your system with the following data additionally:
- FTS ServerView RAID - RAID Management Software
- Intel(R) ProSet LAN Management Software
- SW kit for iRMC Matrox Graphics Controller (Kronos2)
- I/O AT Driver for QuickData Technology Device
Installation Manager provides your system with the following applications additionally:
- Matrox SW kit for iRMC
- ServerView SNMP Agents
- ServerView Update Agent (online flash)
- AIS Connect
- Java Runtime Environment
Installation Manager agent running command CmdStartReplication ...Done
Done
Fertig
Internet | Geschützter Modus: Inaktiv
100%

Figure 82: Installation Monitor: Installation successfully completed. Display: Progress of process

In the following figure the **Log file** option is selected.

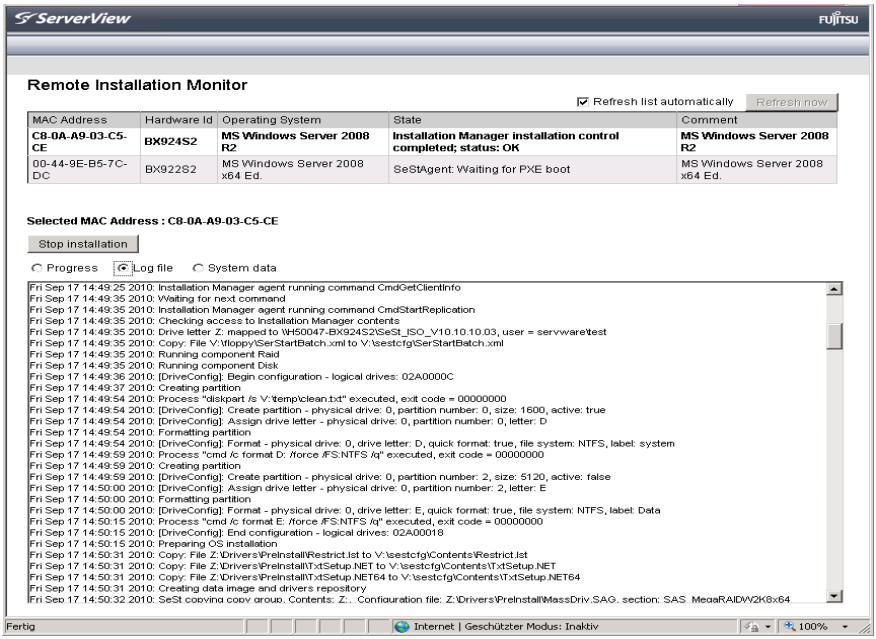

ServerView
FUJITSU
Remote Installation Monitor
Refresh list automatically
Refresh now
MAC Address
Hardware Id
Operating System
State
Comment
C8-0A-A9-03-C5-CE
BX924S2
MS Windows Server 2008 R2
Installation Manager installation control completed; status: OK
MS Windows Server 2008 R2
00-44-9E-B5-7C-DC
BX922S2
MS Windows Server 2008 x64 Ed.
SeSt\Agent: Waiting for PXE boot
MS Windows Server 2008 x64 Ed.
Selected MAC Address : C8-0A-A9-03-C5-CE
Stop installation
Progress
Log file
System data
Fri Sep 17 14:49:25 2010: Installation Manager agent running command CmdGetClientInfo
Fri Sep 17 14:49:35 2010: Waiting for next command
Fri Sep 17 14:49:35 2010: Installation Manager agent running command CmdStartReplication
Fri Sep 17 14:49:35 2010: Checking access to Installation Manager contents
Fri Sep 17 14:49:35 2010: Drive letter Z: mapped to \\ft50047-BX924S2\SeSt_ISO_V10.10.10.03, user = servware\test
Fri Sep 17 14:49:35 2010: Copy: File V:\floppy\SerStartBatch.xml to V:\sestcfg\SerStartBatch.xml
Fri Sep 17 14:49:35 2010: Running component Raid
Fri Sep 17 14:49:35 2010: Running component Disk
Fri Sep 17 14:49:36 2010: [DriveConfig]: Begin configuration - logical drives: 02A0000C
Fri Sep 17 14:49:37 2010: Creating partition
Fri Sep 17 14:49:54 2010: Process "diskpart /s V:\temp\clean.txt" executed, exit code = 00000000
Fri Sep 17 14:49:54 2010: [DriveConfig]: Create partition - physical drive: 0, partition number: 0, size: 1600, active: true
Fri Sep 17 14:49:54 2010: [DriveConfig]: Assign drive letter - physical drive: 0, partition number: 0, letter: D
Fri Sep 17 14:49:54 2010: Formatting partition
Fri Sep 17 14:49:54 2010: [DriveConfig]: Format - physical drive: 0, drive letter: D, quick format: true, file system: NTFS, label: system
Fri Sep 17 14:49:59 2010: Process "cmd /c format D: /force /FS:NTFS /q" executed, exit code = 00000000
Fri Sep 17 14:49:59 2010: Creating partition
Fri Sep 17 14:49:59 2010: [DriveConfig]: Create partition - physical drive: 0, partition number: 2, size: 5120, active: false
Fri Sep 17 14:50:00 2010: [DriveConfig]: Assign drive letter - physical drive: 0, partition number: 2, letter: E
Fri Sep 17 14:50:00 2010: Formatting partition
Fri Sep 17 14:50:00 2010: [DriveConfig]: Format - physical drive: 0, drive letter: E, quick format: true, file system: NTFS, label: Data
Fri Sep 17 14:50:15 2010: Process "cmd /c format E: /force /FS:NTFS /q" executed, exit code = 00000000
Fri Sep 17 14:50:15 2010: [DriveConfig]: End configuration - logical drives: 02A00018
Fri Sep 17 14:50:15 2010: Preparing OS installation
Fri Sep 17 14:50:31 2010: Copy: File Z:\Drivers\PreInstall\Restrict.lst to V:\sestcfg\Contents\Restrict.lst
Fri Sep 17 14:50:31 2010: Copy: File Z:\Drivers\PreInstall\TxtSetup.NET to V:\sestcfg\Contents\TxtSetup.NET
Fri Sep 17 14:50:31 2010: Copy: File Z:\Drivers\PreInstall\TxtSetup.NET64 to V:\sestcfg\Contents\TxtSetup.NET64
Fri Sep 17 14:50:31 2010: Creating data image and drivers repository
Fri Sep 17 14:50:32 2010: SeSt copying copy group. Contents: Z:. Configuration file: Z:\Drivers\PreInstall\MassDriv.SAG. section: SAS_MegaRAIDW2K8x64
Fertig
Internet | Geschützter Modus: Inaktiv
100%

Figure 83: Installation Monitor: Installation successfully completed. Display: Logging information

The **System data** option is selected in the following figure:

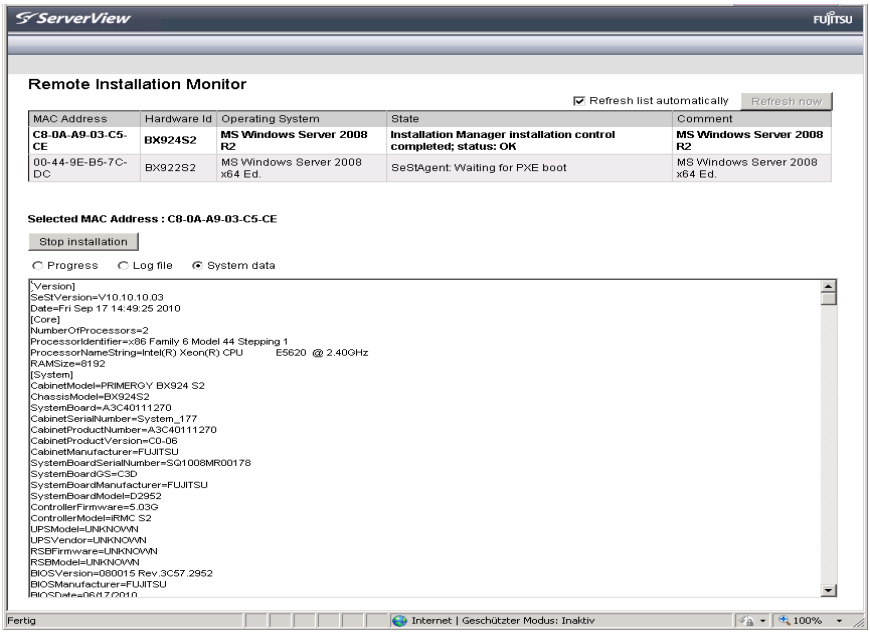


Figure 84: Installation Monitor: Installation successfully completed. Display: System data

9 Maintenance

Depending on whether you start Installation Manager from ServerView Suite DVD 1 or as an application on a deployment server, the following functions are available after you click on **Maintenance** on the start page of the user interface.

- If Installation Manager was started from the ServerView Suite DVD 1:

  Wide range of options for maintenance and configuration of servers already installed (see section "Maintaining and configuring PRIMERGY servers" on page 255).
- If Installation Manager was started on a deployment server:
  - Configuring and managing Multi Deployment (MDP) sets.
  - Booting any required boot images using the PXE infrastructure of Installation Manager.
  - Creating a backup of the Installation Manager repository.
  - Restoring the Installation Manager repository using a backup.

  For further information, refer to section "Maintenance on the deployment server" on page 259.

9.1 Maintaining and configuring PRIMERGY servers

In addition to deploying PRIMERGY servers, Installation Manager offers comprehensive options for maintaining and configuring servers which have already been installed.

To take advantage of these, start Installation Manager on your server from ServerView Suite DVD 1 and in the Installation Manager's welcome window click the **Maintenance** entry in the menu bar or in the display area.

The **ServerView Installation Manager Maintenance** window is then displayed.

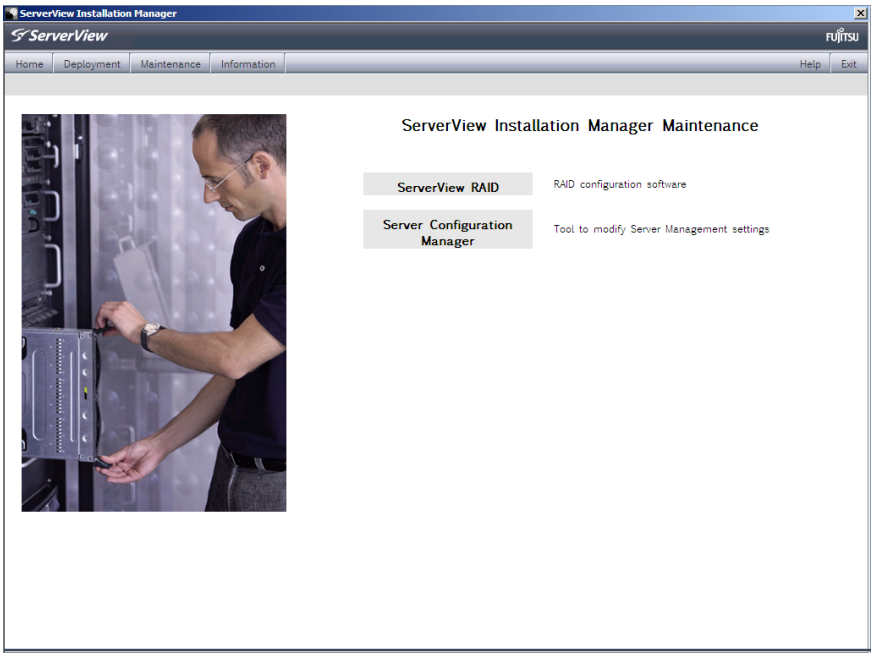


Figure 85: ServerView Installation Manager Maintenance window

ServerView RAID

Starts the ServerView RAID Manager for configuring and maintaining your server's RAID controllers.

Server Configuration Manager

Starts the Server Configuration Manager for configuring your server's general system behavior and - if they exist - for configuring the BMC, iRMC or iRMC S2/S3/S4.

9.1.1 ServerView RAID

The ServerView RAID Manager enables you to monitor and configure RAID controllers which are incorporated in your server.

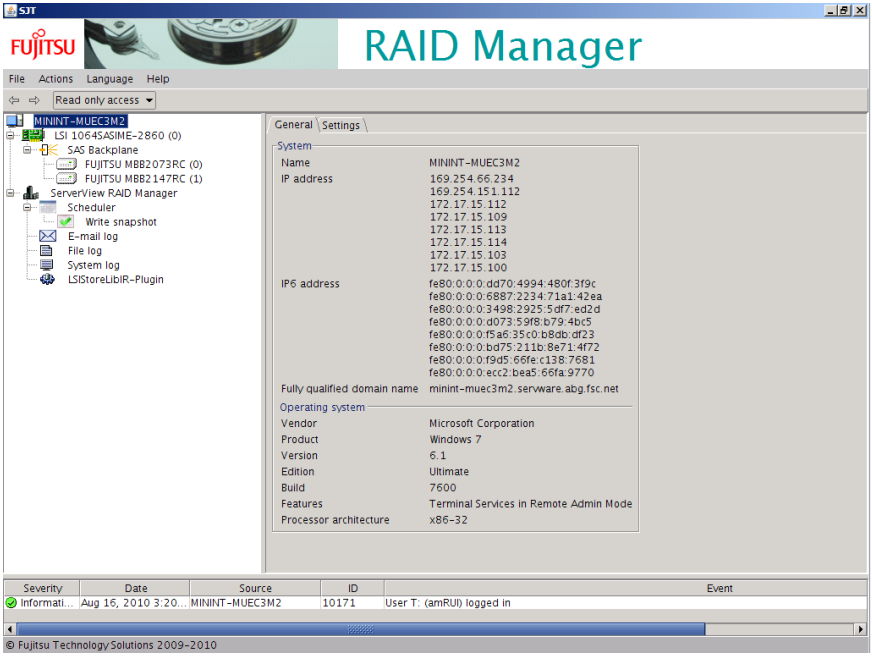


Figure 86: ServerView RAID Manager

How you operate the ServerView RAID Manager is described in the manual "ServerView Suite ServerView RAID Manager".

9.1.2 Server Configuration Manager

The Server Configuration Manager offers a sequence of steps in which you can configure the settings for your server's general system behavior and - if they exist - the BMC, iRMC or iRMC S2/S3/S4.

In terms of their sequence and functionality, the dialogs offered here are identical to the configuration steps described in the section "Server Configuration Manager" on page 129. The only differences are in the layout.

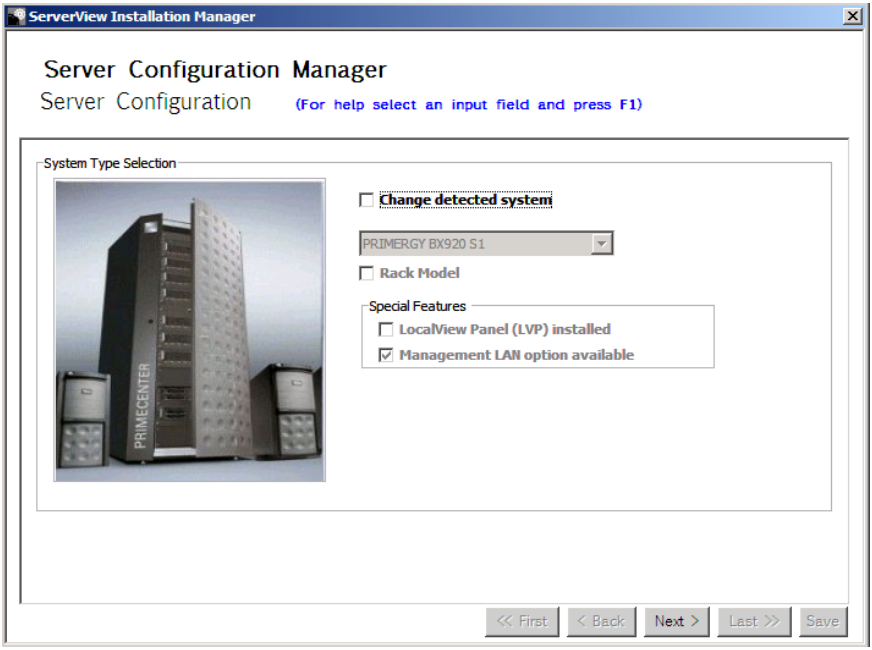


Figure 87: Server Configuration Manager

<<First

Takes you to the first configuration step.

<Back

Takes you to the previous configuration step.

Next>

Takes you to the next configuration step.

Last>>

Takes you to the last configuration step.

Save

Writes the current session's configuration parameters to the non-volatile memory area of the PRIMERGY system, which is reserved for the Server Management functions.

9.2 Maintenance on the deployment server

When you start Installation Manager on the deployment server and click on **Maintenance** in the user interface, the following functions are available in the **ServerView Installation Manager Maintenance** window.

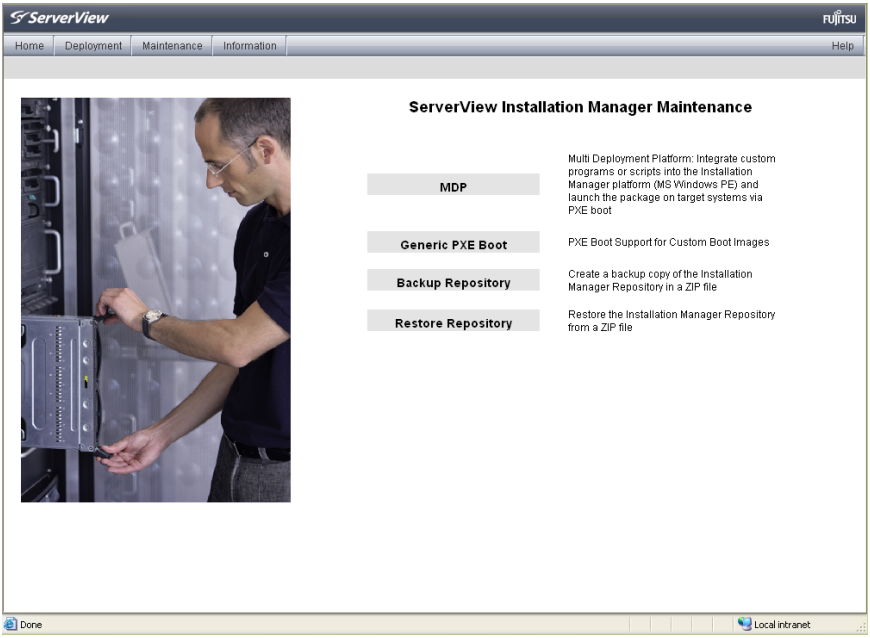

ServerView
FUJITSU
Home
Deployment
Maintenance
Information
Help
ServerView Installation Manager Maintenance
MDP
Multi Deployment Platform: Integrate custom programs or scripts into the Installation Manager platform (MS Windows PE) and launch the package on target systems via PXE boot
Generic PXE Boot
PXE Boot Support for Custom Boot Images
Backup Repository
Create a backup copy of the Installation Manager Repository in a ZIP file
Restore Repository
Restore the Installation Manager Repository from a ZIP file
Done
Local intranet

Figure 88: ServerView Installation Manager Maintenance window

MDP
Integrating custom programs or scripts into the Installation Manager platform (MS Windows PE) and launching the package on target systems via PXE boot.

Generic PXE Boot
Booting any required boot images using the PXE infrastructure of Installation Manager.

Backup Repository
Creating a backup of the Installation Manager repository.

Restore Repository
Restoring the Installation Manager repository using a backup.

9.2.1 Configuring and managing Multi-Deployment (MDP) sets

The Multi-Deployment Platform (MDP) is the bootable platform that Installation Manager provides for user-specific purposes. You can start MDP either locally using the ServerView Suite DVD 1 or remotely via PXE.

The MDP infrastructure is described in the White Paper "MDP - Multi-Deployment Platform", which you will find on the ServerView Suite DVD.

MDP enables you to start a PXE boot that is based on an “MDP set”. An MDP set is a user-specific collection of scripts and/or programs that are executed in order to perform a PXE boot on the MDP platform.

All the MDP structural information (configuration files, etc.) required for a PXE boot is collected in the MDP set.

Two different types of MDP set are distinguished:

- Preconfigured MDB set

A preconfigured MDP set is an existing MDP set that has been created by the user and which you make available to Installation Manager. The set must contain all the MDP infrastructure information (configuration data, metadata, etc.) required by the MDP process.

- MDP configuration

In the context of an MDP configuration, you only provide executables. Installation Manager then uses these files to automatically generate the

required MDP infrastructure information. You can only manage MDP configurations within Installation Manager.

The **MDP Configurations** dialog box allows you to

- configure new MDP sets (MDP set configurations)
- manage MDP sets (preconfigured MDP sets and MDP configurations) in a table
- prepare and start the PXE boot based on the selected MDP set.

Proceed as follows:

In the **ServerView Installation Manager Maintenance** window, click on the **MDP** link to open the **MDP Configurations** dialog.

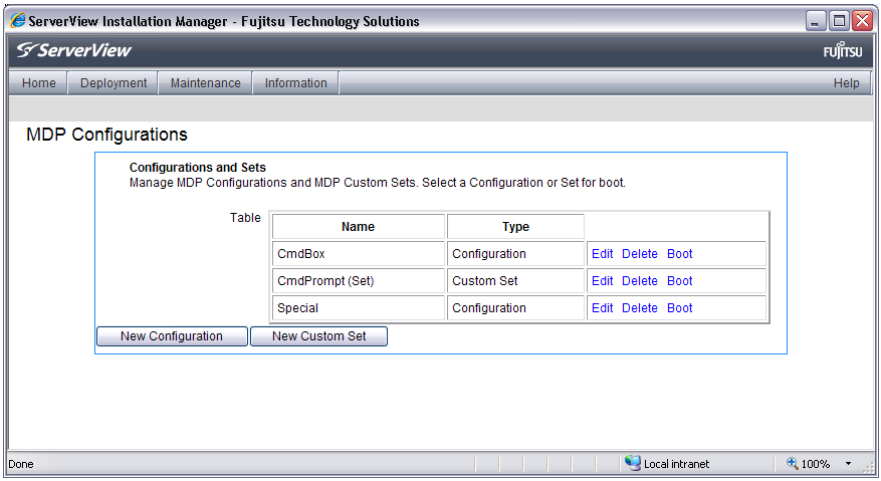


Figure 89: MDP Configurations dialog

The **MDP Configurations** dialog box displays in table form all MDP sets that are currently available in Installation Manager. Preconfigured MDP sets are displayed as type **Custom Set**. MDP configurations are displayed as type **Configuration**.

New Configuration

Opens the **Generic MDP Configuration** dialog box, which allows you to provide the MDP infrastructure information (parameters, agents, files etc.) that is required for configuring a new MDP set. In addition, you can assign a name to this MDP set.

New Custom Set

Opens the **Preconfigured MDP Set** dialog box for adding a Custom MDP set to the **Configurations and Sets** table.

Edit

Opens the dialog box for editing the selected MDP set.

This button is only active if you select an MDP set in the **Configurations and Sets** table.

Which dialog box is opened depends on whether you have selected a custom MDP set or an MDP configuration.

If a custom MDP set has been selected:

The **Preconfigured MDP Set** dialog box allows you to rename the selected custom MDP set.

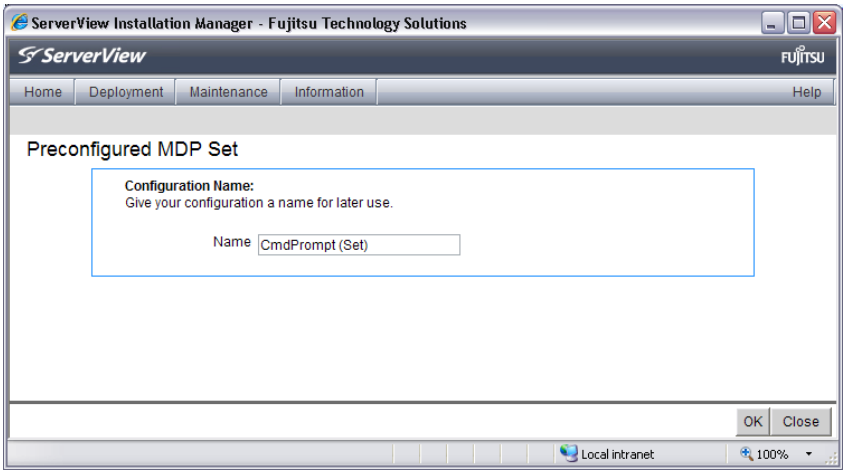


Figure 90: Multi Deployment Platform - Renaming a preconfigured MDP set

Name

New name for the selected MDP set.

Ok

Applies the new name to the selected MDP set.

Close

Closes the dialog.

If an MDP configuration has been selected:

The **Generic MDP Configuration** dialog box allows you to view and modify the current settings of the selected MDP configuration.

Delete

Deletes the selected MDP set following a confirmation dialog.

This button is only active if you select an MDP set in the **Configurations and sets** table.

Boot

Opens the **Generic PXE Boot** dialog, where you can prepare and start the PXE boot based on the selected MDP set.

Close

Closes the **MDP Configurations** dialog.

9.2.1.1 Configuring new MDP sets

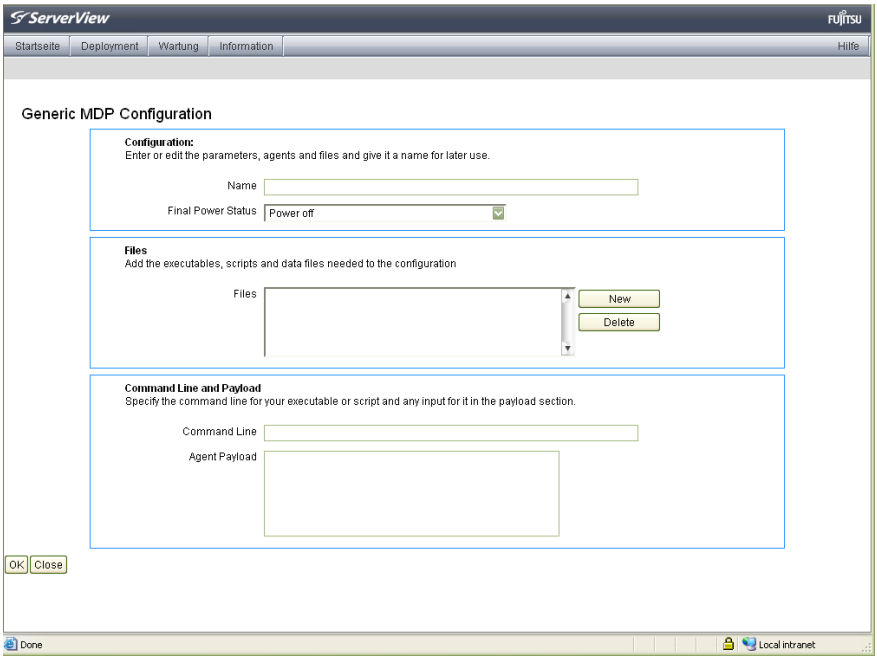


Figure 91: Multi Deployment Platform - Generic MDP configuration

In the **Generic MDP Configuration** dialog box, you provide the MDP infrastructure information (parameters, agents, files etc.) that is required for configuring a new MDP set. In addition, you can assign a name to this MDP set.

In the context of an MDP configuration, you only provide executables. Installation Manager then uses these files to automatically generate the required MDP infrastructure information. You can only manage MDP configurations within Installation Manager.

The MDP configuration is displayed in the **Configurations and Sets** table.

Configuration

Defines the name of the MDP set and the final power status of the target system subsequent to a preceding PXE-based execution of the MDP set.

Name

Name of the MDP set.

Final Power Status

Final power status of the target system subsequent to a preceding PXE-based execution of the MDP set.

Power Off

Default value. The target system will be powered off.

Reboot

The target system will be rebooted.

Files

Provides the required MDP structure information (parameters, agents, executables, scripts, and other files).

New

Opens a dialog box which allows you to add a file to the current configuration.

All added files are displayed in the **Files** field.

Delete

Deletes the selected entry in the **Files** field as well as the corresponding file from the configuration.

Command Line and Payload

Allows you to enter the command line for your executable or script, and the actual parameters.

Command Line

Command line for your executable or script.

Agent Payload

Data the MDP process is provided with via the *<drive>:\MDP\Config.ini* file.

Ok

Copies the new MDP configuration set to the **Configurations and Sets** table.

In the case of an already existing MDP configuration: Applies the modified settings.

Close

Closes the dialog.

9.2.1.2 Adding a new set / editing a custom set

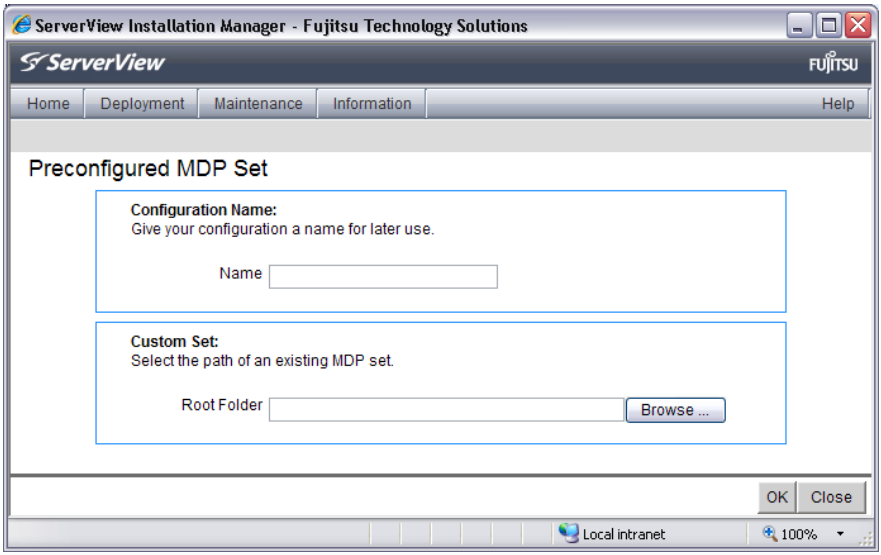


Figure 92: Multi Deployment Platform - Adding a preconfigured MDP set

In the **Preconfigured MDP Set** dialog box, you can add a custom MDP set to the **Configurations and Sets** table or rename a custom MDP set which has a corresponding entry in the table.

A preconfigured MDP set is an existing MDP set that has been created by the user and which you make available to Installation Manager. The set must contain all the MDP infrastructure infomation (configuration data, metadata, etc.) required by the MDP process.

Configuration Name

Defines / changes the name of the MDP set for use later on.

Name

Name of the MDP set for use later on.

Custom Set

The **Custom Set group** is not displayed if you opened the dialog box by clicking **Edit** in the **MDP Configurations** dialog box.

Selects the path of an existing MDP set.

Root Folder

MDP set that you want to add to your configuration.

When you click on the folder icon, you can select the MDP set path via the file browser.

OK

Copies the selected MDP set to the **Configurations and Sets** table.

If you opened the dialog box by clicking **New Custom Set** in the **MDP Configurations** dialog box:
Copies the selected MDP set to the **Configurations and Sets** table.

If you opened the dialog box by clicking **Edit** in the **MDP Configurations** dialog box:
Gives a new name to the MDP set.

Close

Closes the dialog.

9.2.1.3 Preparing and starting the PXE boot

In the **Generic PXE Boot** dialog box, you can prepare and start the PXE boot based on the selected MDP set.

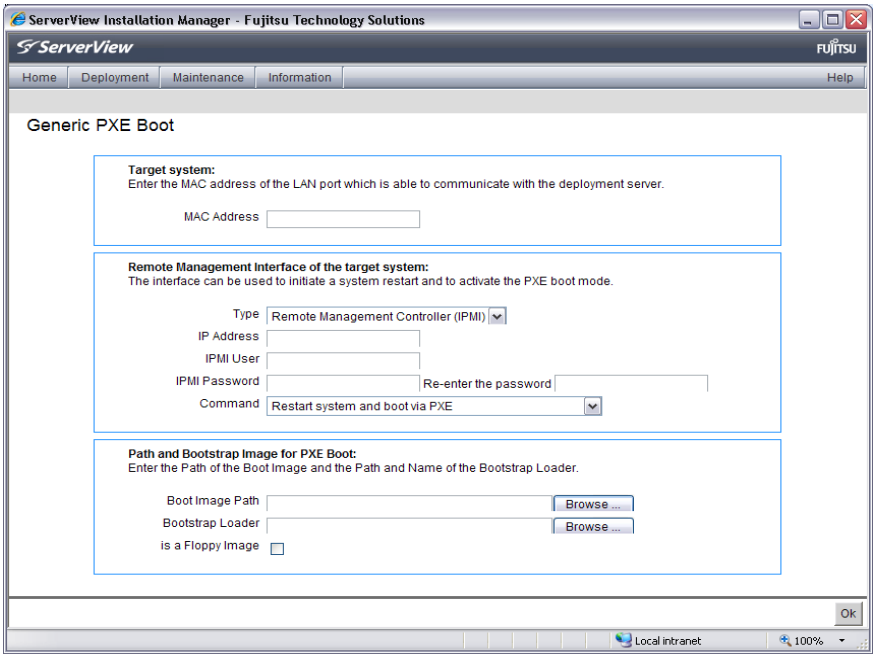


Figure 93: Generic PXE boot based on an MDP set

For an explanation of the **Generic PXE Boot** dialog box, see section "Booting any required boot images via PXE" on page 269.

OK

Starts the MDP set-based generic PXE boot. The Installation Monitor starts automatically once the remote installation is started. The Installation Monitor window provides information on the progress and status of the remote installation.

Cancel

Closes the **Generic PXE Boot** dialog.

9.2.2 Booting any required boot images via PXE

Besides using the PXE boot infrastructure of Installation Manager for the entire configuration and installation of PRIMERGY servers, you can also use it to boot any required boot images on a target system via PXE.

- Click **Generic PXE Boot** in the **ServerView Installation Manager Maintenance** window to open the **Generic PXE Boot** dialog.

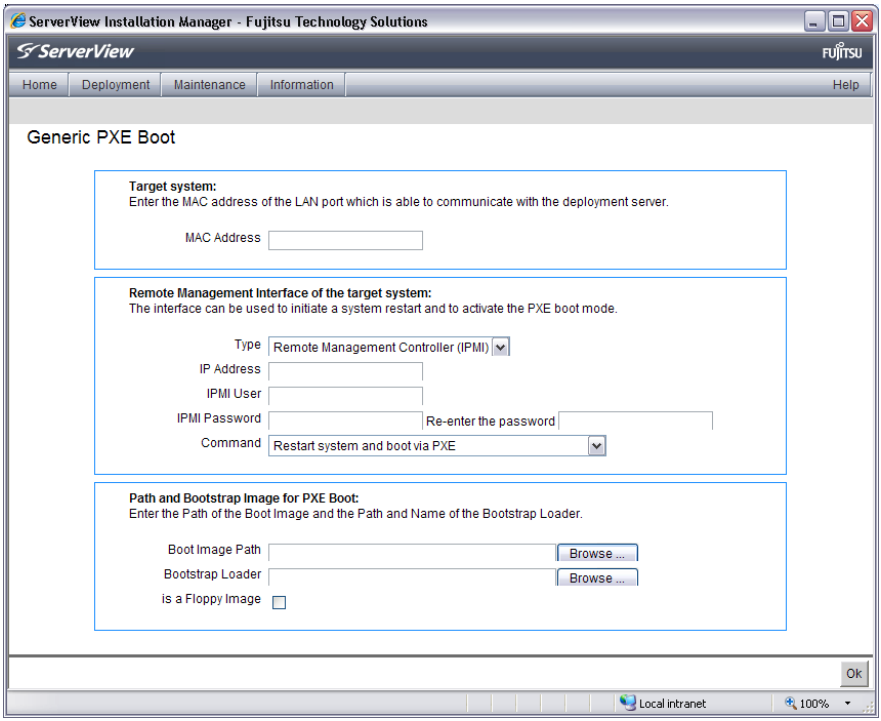


Figure 94: Generic PXE boot

Saved MAC Addresses

Here you can select a previously saved MAC address from a list. This MAC address is automatically displayed in the **MAC Address** field of the **Target System** group (see below).

Target system

Determines the target system on which the boot image is to be booted.

MAC Address

MAC address of the LAN port (network card) on the target system that is used to enable communication between the deployment server and the target system during the installation.

Remote Management Interface of the target system

Here you can configure that the PXE mode is activated automatically on the target system as part of the generic boot operation (either with or without a restart of the target system) in the following cases:

- The target system has a remote management interface (BMC, iRMC, iRMC S2/S3/S4 or management blade).
- The target system has a Wake on LAN (WoL)-capable LAN adapter (network card).

If the target system does not have any of these remote management interfaces, you must start the target system for the PXE boot explicitly via local operation.

Type

Type of remote management interface on the target system.

You can choose from the following options:

- **Remote Management Controller (IPMI)** for PRIMERGY servers with BMC, iRMC or iRMC S2/S3/S4.
- **Management Blade (SNMP)** for PRIMERGY blade servers.

- **Wake On LAN** for target systems with a Wake on LAN (WoL)-capable network card (NIC), which is powered by the standby branch of the target system even when the target system is switched off.
- **No remote control** if the target system does not have a remote management interface. In this case, you must start the target system for the PXE boot explicitly via local operation.

"Remote Management Controller (IPMI)" parameters

IP Address
IP address of the BMC, iRMC or iRMC S2/S3/S4.

IPMI User
Local user account on the BMC, iRMC, or iRMC S2/S3/S4 of the target system.

IPMI Password
Password for the local user account on the BMC, iRMC, or iRMC S2/S3/S4.

Command
Determines when and how the installation is started on the target system:

Restart system and boot via PXE boot:
Automatically enables PXE boot mode with a subsequent restart of the target system.

Set boot mode to PXE (no restart):
Automatically enables PXE boot mode without a subsequent restart of the target system. In this case, you must initiate a restart yourself.

"Management Blade" parameters

IP Address
IP address of the management blade

SNMP Community
SNMP user group with the corresponding rights on the management blade.

Command
Determines when and how the installation is started on the target system:

Restart system and boot via PXE boot:
Automatically enables PXE boot mode with a subsequent restart of the target system.

Set boot mode to PXE (no restart):
Automatically enables PXE boot mode without a subsequent restart of the target system. In this case, you must initiate a restart yourself.

"Wake On LAN" parameters

In the case of Wake on LAN, Installation Manager uses IP broadcast or Ethernet broadcast to send a magic packet as a UDP datagram to the subnet in which the target system is located.

The following applies:

- If the target system is in the same LAN segment as the deployment server, you do not need to specify an address under **Broadcast Address**. In this case, Installation Manager automatically uses the limited broadcast address 255.255.255.255 and sends the magic packet to UDP port 9 as an Ethernet broadcast using the **MAC Address** of the target system.
- If the target system is in a different LAN segment that is bridged by one or more gateways, enter either of the following under **Broadcast Address**:
  - Subnet broadcast address of the LAN segment in which the target system is located. The address must contain the value "255" in the device area (host area) (e.g. 123.123.2.255).

In this case, the magic packet is sent to the gateway via one or several hops, and the gateway ultimately transmits the Ethernet broadcast to the subnet of the target system.

- IP address of a BOOTP/DHCP server.

  In this case, you must select the **Broadcast to Bootstrap Server** option and specify a valid IP address under **IP Address** in the LAN segment of the target system.

Broadcast Address

Subnet broadcast address of the LAN segment in which the target system is located, or Unicast address of a BOOTP/DHCP server.

If you specify the Unicast address of a BOOTP/DHCP server, you must select the **Broadcast to Bootstrap Server** option.

Broadcast to Bootstrap Server

If you select this option, the magic packet is sent to UDP port 67 (Bootstrap Protocol (BOOTP) Server); otherwise, it is sent to UDP port 9.

This option is required if you specify the Unicast address of a BOOTP/DHCP server under **Broadcast Address**. Furthermore, you should select this option if it is not guaranteed that all gateways included in a subnet broadcast are configured for "subnet broadcasting".

IP Address

Any Unicast address in the subnet of the target system. Using this IP address, the BOOTP/DHCP server determines the LAN interface (LAN port) via which it is to send the magic packet (in this case, a DHCP/BOOTP reply packet).

Path and bootstrap image for PXE boot

The **Path and Bootstrap image for PXE boot** group is only displayed if the Generic PXE boot was started directly via the **ServerView Installation Manager Maintenance** window. When using an MDP set (preconfigured MDP set or MDP configuration), the corresponding information is provided by the MDP set.

Specifies the path for the boot image as well as the path and name of the bootstrap loader.

Boot image and bootstrap loader must be on the deployment server.

Boot Image Path

Directory on the deployment server in which the boot image is located.

Bootstrap Loader

Directory and name of the bootstrap loader on the deployment server.

Is a Floppy Image

Defines that the boot image is a disk image.

OK

Boots the boot image via PXE on the target system.

The Installation Monitor starts automatically once the remote installation is started. The Installation Monitor window provides information on the progress and status of the remote installation.

Cancel

Closes the **Generic PXE Boot** dialog.

9.2.3 Creating / importing a backup of the Installation Manager repository

The Installation Manager repository contains operating data for Installation Manager, configuration files with user configurations for an unattended installation, as well as remote installation details (MAC address of the target system, remote management interface of the target system via which the PXE boot is to be initiated, etc.).

Installation Manager offers the following functions to ensure the availability of an intact repository at all times:

- Using the **Backup Repository** function, you can create a backup of the Installation Manager repository and save it to a ZIP file.
- Using the **Restore Repository** function, you can restore the Installation Manager repository from a backup.

9.2.3.1 Creating a backup of the Installation Manager repository

Using the **Backup Repository** function, you can create a backup of the Installation Manager repository and save it to a ZIP file.

- In the **ServerView Installation Manager Maintenance** window, click on the **Backup Repository** link to open the **Backup Repository** dialog.

Directory

Directory in which you want to save the repository backup.

If you click on the folder icon, you can select the directory via the file browser.

Name

Name of the backup copy of the repository.

OK

Creates a backup copy of the repository.

Close

Closes the dialog.

9.2.3.2 Restoring the Installation Manager repository

Using the **Restore Repository** function, you can restore the Installation Manager repository from a backup copy (ZIP file).

- In the **ServerView Installation Manager Maintenance** window, click on the **Restore Repository** link to open the **Restore Repository** dialog.

Backup File

Path name of the repository backup.

If you click on the folder icon, you can select the backup copy via the file browser.

OK

Starts restoring the repository.

Close

Closes the dialog.

10 Installation Manager Information

Clicking the **Information** entry in the menu bar or display area in the start page of the Installation Manager GUI takes you to the **Information** window:

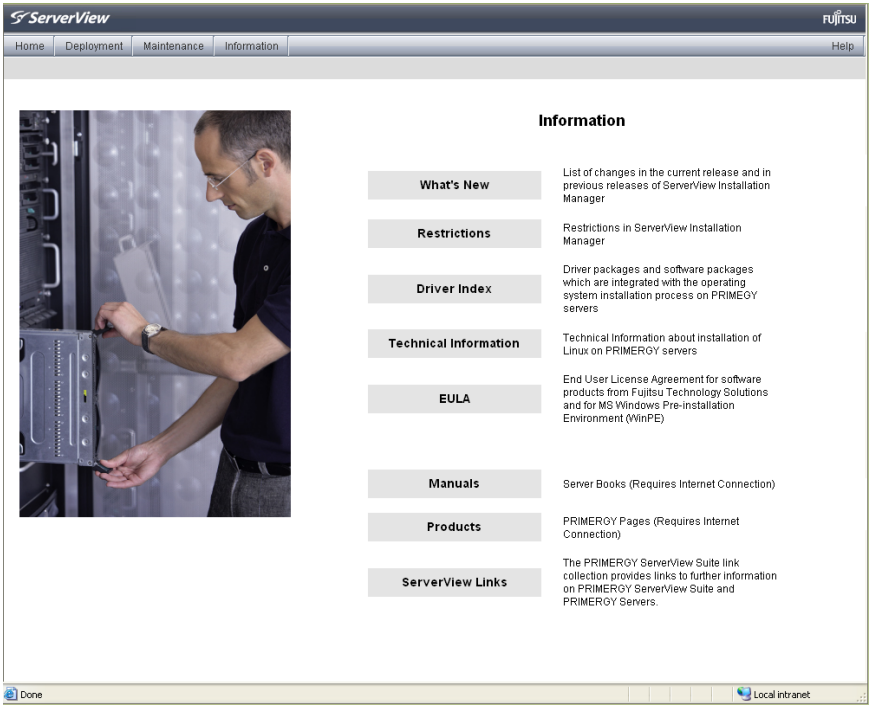

ServerView
FUJITSU
Home
Deployment
Maintenance
Information
Help
Information
What's New
List of changes in the current release and in previous releases of ServerView Installation Manager
Restrictions
Restrictions in ServerView Installation Manager
Driver Index
Driver packages and software packages which are integrated with the operating system installation process on PRIMERGY servers
Technical Information
Technical Information about installation of Linux on PRIMERGY servers
EULA
End User License Agreement for software products from Fujitsu Technology Solutions and for MS Windows Pre-installation Environment (WinPE)
Manuals
Server Books (Requires Internet Connection)
Products
PRIMERGY Pages (Requires Internet Connection)
ServerView Links
The PRIMERGY ServerView Suite link collection provides links to further information on PRIMERGY ServerView Suite and PRIMERGY Servers.
Done
Local intranet

Figure 95: Information window

Operating instructions and technical manuals are provided on ServerView Suite DVD 2.

What's New

Provides information on changes in the current release of the Installation Manager and the change history of the previous releases.

Restrictions

Provides information on restrictions and product dependencies and offers proposed solutions.

Driver Index

Provides an overview of the driver and software packages which the Installation Manager installs for PRIMERGY servers and their hardware components.

Technical Information

Provides technical information for installing Linux on PRIMERGY servers.

Documents

Here you will find How-tos and white papers.

EULA

Here you will find the End-User License Agreement.

If you have started the Installation Manager as an autonomous application, the information page also contains the following entries: links to the web pages of Fujitsu Technology Solutions:

Manuals

Link to the **Online Manuals** page on the website of Fujitsu Technology Solutions. An Internet connection is required here.

Products

Link to the **PRIMERGY Servers** page on the website of Fujitsu Technology Solutions. An Internet connection is required here.

ServerView Links

The ServerView Suite link collection contains links to further information on ServerView Suite and PRIMERGY servers.

11 Reference

In this section you will find information on the following topics:

- PXE (**P**reboot e**X**ecution **E**nvironment) process
- Setting up a DHCP server
- Virtual Local Area Network (VLAN)

11.1 The PXE process

The PXE process is based on the PXE protocol, which is supported by a special boot mode of the LAN adapter. It does not become active until the system BIOS activates the LAN adapter as a boot device during system boot and jumps to it. For this to happen, the LAN device must be set to the highest priority in the system BIOS boot order.

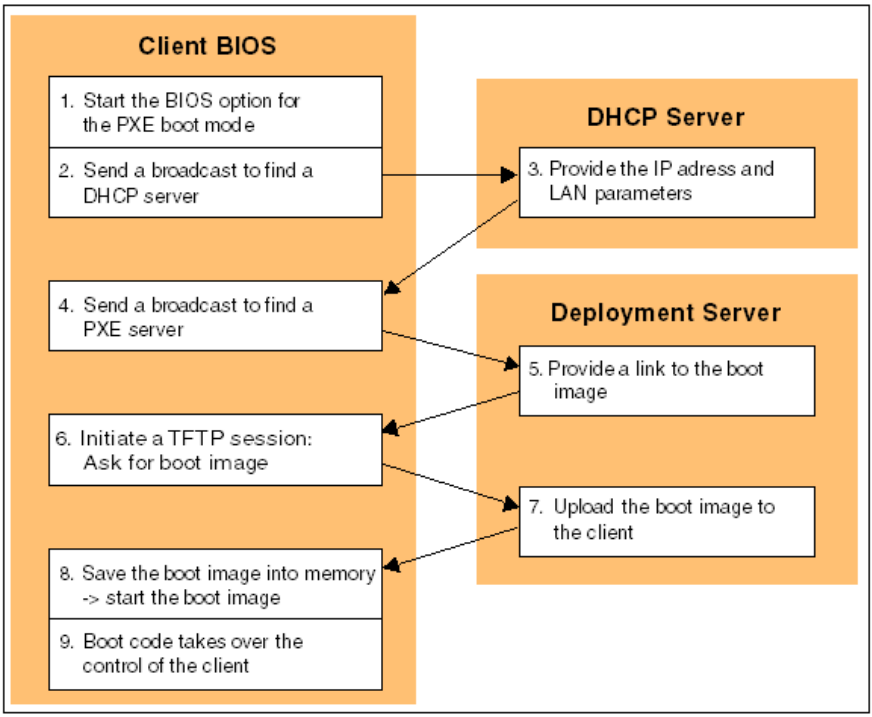

Client BIOS
1. Start the BIOS option for the PXE boot mode
2. Send a broadcast to find a DHCP server
DHCP Server
3. Provide the IP adress and LAN parameters
4. Send a broadcast to find a PXE server
Deployment Server
5. Provide a link to the boot image
6. Initiate a TFTP session: Ask for boot image
7. Upload the boot image to the client
8. Save the boot image into memory -> start the boot image
9. Boot code takes over the control of the client

Figure 96: The PXE process

2-3 The boot process on the client side starts with a PXE broadcast to the DHCP server to receive a temporary IP address (mandatory).

4-5 A similar broadcast discovers the PXE boot server on port 67 or 4011 (depending on the information issued by the DHCP server) requesting a boot image name.

6-8 If the required information has been provided, a TFTP session is started to receive the boot image from the PXE server. The image size must not exceed 1.44 MB (floppy disk emulation mode). This boot image is copied to memory address *07C0h* and started by the BIOS.

9 As long as the operating system kernel is not started and neither are the kernel drivers, any LAN access is performed using the PXE BIOS.

The PXE protocol is used by the PXE service of the Installation Manager to boot the Installation Manager platform remotely on the reference system. For this purpose the deployment server (where the Installation Manager is installed) contains a bootstrap file and the actual OS image in the form of a RamDisk image.

This image (approx. 160 MB in size) exists in duplicate: in a 32-bit and a 64-bit version. Which version of the image is selected depends on the type of Windows installation operating system. After the RamDisk image has been transferred, the Installation Manager platform (client instance of the Installation Manager) executes autonomously on the target system. A network connection is only still required to load further installation resources (drivers, software packages, OS images) dynamically and for status tracking via the Installation Monitor.

The Installation Manager platform directory is approximately 2 x 160 MB in size. However, the memory space required on the target system on which the PXE client runs is considerably greater. Remote booting and unattended installation require a minimum of 1024 MB of main memory on the target server. In addition, operating system installation can itself require additional memory.

11.2 Setting up a DHCP server

DHCP (Dynamic Host Configuration Protocol) is a protocol for assigning dynamic IP addresses to devices in a network. With dynamic addressing, a device can have a different IP address every time it connects to the network. In some systems, the device's IP address can even change while it is still connected. DHCP also supports a mix of static (reserved) and dynamic IP addresses.

When DHCP and PXE simultaneously run on a deployment server, both services occupy the same network port and PXE acts as a DHCP proxy. If, in this configuration, DHCP is uninstalled, PXE has to be reinstalled autonomously. For more information, refer to the Deployment Manager manual.

The default directory *C:\Program Files\Fujitsu\ServerView Suite\DeploymentService\Bin* contains a file called *localipaddress.txt*. From this source the PXE service obtains its IP address. If the file is empty or not present, the PXE service automatically occupies LAN port 0 (if DHCP is located on the same level, it occupies LAN port 0 as well). Depending on the list under *Control Panel - Network and Dial-up Connections - Settings - Advanced*, you can also use a different LAN port.

11.3 VLAN (Virtual Local Area Network)

A Virtual LAN is a local network which behaves as if all participants were visible in the same network, although they are actually connected to different physical networks. VLANs are configured through software rather than hardware, which makes them extremely flexible. One of the biggest advan-tages of VLANs is that, when a computer is physically moved to another location, it can stay on the same VLAN without any hardware reconfiguration.

The PXE agent code (part of the target server BIOS boot phase) protocol scans the LAN segment for PXE and DHCP servers by transmitting a broadcast on port 67. If these servers are placed behind a router, hub or switch with activated Virtual LAN software, these devices have to be programmed port by port to bypass these broadcasts.

For multi segment deployment and required router configuration see also section "Configuring router for multi segment deployment" on page 92.

VLAN configuration

The PXE client running on the blade server does not support VLANs and does send untagged frames. However, the LAN is supported by PRIMERGY server systems.

VLAN requirements

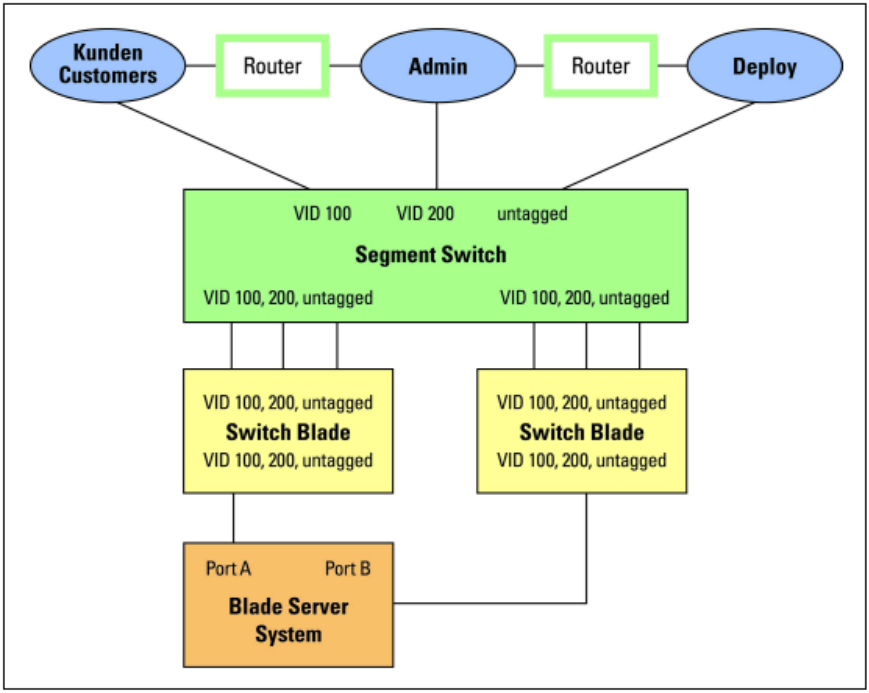
- The external switch in the LAN must support VLANs.
- The driver for the server blade network connectors (NIC) must allow to be integrated in several VLANs.
- The image from the PXE server must already contain a driver pre-configured for VLANs.

Example of a VLAN configuration

- VLAN-IDs must be assigned for all segments on the segment switch, except for the deploy segment.
  - I.e. data traffic towards the deploy segment is transmitted untagged.
  - If the PXE client sends an untagged frame, it is allocated to all three source-ports by the switch blade. The untagged frame is only transferred to the untagged port (connected to the deploy segment) by the segment switch.
  - After the operating system has been booted on the server blade, the operating system identifies several separate segments due to the VLAN configuration.
- All ports in the switch blade must recognize all VLAN-IDs and have to be configured for untagged frames at the same time. Even though the switch blade does not perform a segmentation, without VLAN configuration it would abandon all frames that carry a VLAN tag.

Summary

- PXE service data is only forwarded to the deploy segment.
- The VLAN configuration provides the splitting of segments after the boot process.
- Data exchange among the segments is only possible via a router.
- Full redundancy can be configured for both network controllers.


Kunden
Customers
Router
Admin
Router
Deploy
VID 100
VID 200
untagged
Segment Switch
VID 100, 200, untagged
VID 100, 200, untagged
VID 100, 200, untagged
Switch Blade
VID 100, 200, untagged
VID 100, 200, untagged
Switch Blade
VID 100, 200, untagged
Port A
Port B
Blade Server
System

12 License Agreement for End User

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